DOMESTIC ENGINEERING

A Weekly Record of Progress in Plumbing, Heating, Ventilation and all Matters Pertaining to Domestic Sanitation

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"Like a Liberty Bond, it is an Investment, not a Loss, when a Man dies for his Country." — From the Late Lieutenant Dinsmore Ely's Last Letter.

MAKE THE CREDIT CUSTOMER PAY FOR THE PRIVILEGE.

ACCOUNTS do not necessarily represent money. This fact has dawned upon plumbing and heating contractors, who have outstanding accounts, which have been carried on the books from month to month.

They have discovered that accounts are often not a liquid asset, and at times not an asset at all, but frequently an uncertain quantity until they are collected.

Outstanding accounts represent an investment to the plumbing and heating contractor.

Unless he collects both the principal and the interest on bills past due, he is not receiving the full return on his investment.

If it is sound business practice for the supply house to insist upon interest on accounts, which have not been paid at maturity, it is equally sound practice for the contractor to demand interest on his accounts past due.

There is ample evidence that many plumbing and heating contractors stand in urgent need of up-to-date credit systems. The records of bankruptcy proceedings will verify the statement that lack of method and system in handling credit accounts have been the Waterloo of many of the contractors, who have "gone on the rocks."

There are some contractors who have found it advantageous to offer a discount of two per cent for payment of bills within a ten-day period. Customers are apprised of this fact in a notice printed in red at the top of the bill or letterhead.

Better and more effective methods in credits and collections in the operation of plumbing or heating establishments are of vital importance.

The contractor cannot protect and conserve his working capital, which is often modest, and meet his own financial obligations, unless he takes steps to insist upon prompt payment for his services and the proper interest where extended credit is necessary.

With the increase in the cost of materials and the rising cost of operating his business, coupled with the keen competition, he must often face the contractor cannot afford to carry accounts without interest beyond maturity and at the same time pay the jobber interest on his own past-due accounts.

It is a noteworthy fact that many contractors are prone to be too meek and compromising in the enforcement of their rights as business men. Too much latitude has been permitted in the matter of accounts that should have been settled promptly.

Rather than offend the gentle sensibilities of delinquent customers by demanding prompt payment or interest after a certain date, many plumbing and heating contractors borrow money at the bank at six per cent, or more, interest in order to meet their supply house and other obligations.

Customers as a rule have a more wholesome respect for the business man who is firm and insists on prompt payments, and will be less prone to believe that his bill represents an excessive profit to the contractor.

In short, co-operation is the great need in putting the spirit of 100 per cent efficiency in our credit systems.

The fact must be more fully realized that there are three indispensable factors in all business—the wholesaler or manufacturer, the retailer and the ultimate consumer. Their interests are one, their responsibility is one, and the highest results can only be attained when all three co-operate for the good of all.

The question of credits is an interesting one, and the business man of today must consider it carefully and adopt appropriate "safety-first" measures.

PRESSURE REGULATING DEVICES

Notes on the Construction and Operation of Pressure Reducing Valves for Modern Heating Systems

By Charles L. Hubbard

AMONG the various devices which the steamfitter must frequently use in his work are those connected with the regulation of pressure. The most common of these in heating layouts are the reducing valve, back pressure valve, and safety or relief valve, although other devices connected with power and heating work make use of changes in pressure, such as damper regulators, differential steam traps, pump regulators, etc.

Pressure Reducing Valves.

Pressure reducing valves are used wherever live steam is required at a lower pressure than that carried on the boilers, and while always required in exhaust heating plants, they are not by any means confined to that particular class of work. For example, a school building equipped with a fan system combined with direct heating may require a pressure of 20 or 30 pounds for driving the fan engine; 10 pounds on the main heater in the coldest weather; and 1 to 5 pounds on the direct radiation, in which case a boiler pressure would be carried sufficient to operate the engine, and two pressure valves used to supply the lower pressures. A hospital may require pressure, ranging from 1 to 60 pounds for various purposes, such as heating, ventilating, cooking, sterilizing, laundry work, etc., all to be supplied from a single boiler or battery of boilers carrying the higher pressure.

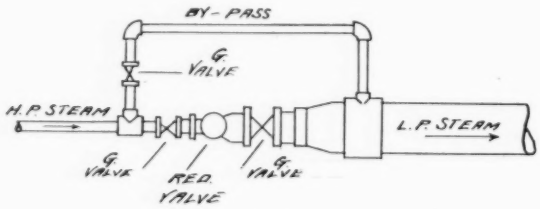


Fig. 1.

It is often possible to save a considerable amount in the expense of piping installations, where varying amounts of low-pressure steam are required at widely separated points, by simply tapping a high-pressure line and using a reducing valve instead of carrying a separate low-pressure line from the boiler house. Sometimes, where a number of buildings are heated from a central plant, it will be found more economical to make the distribution at a higher pressure and reduce in each building, thus using much smaller piping and thereby reduce the cost of installation.

In cases, where it is necessary to eliminate all fluctuation in pressure, a boiler pressure may be carried 10 or 15 pounds higher than required, and the supply delivered through a reducing valve at the pressure desired. In this way all fluctuations in boiler pressure are kept out of the piping system, and a constant pressure maintained at all times. The writer remembers the case of a cottage hospital plant, where the heating was done from a battery of low-pressure boilers with a gravity return of condensation. When the entire system was steam filled and under a uniform pressure, everything worked perfectly, but if the steam pressure dropped slightly below the normal, and the fire was started up to bring it back, the pressure would become unbalanced in the long horizontal runs of supply and return piping, which would result in severe surging and water-hammer until an equilibrium was again attained. As it was practically impossible to maintain a perfectly uniform boiler pressure with the available janitor service, much discomfort was caused to the inmates by almost constant water hammer, either while the pressure was falling or rising. All difficulty was done away with by simply raising the normal boiler pressure to 12 pounds, installing a more efficient damper regulator to assist in this, and connecting a reducing valve into the supply main for cutting the pressure to 2 pounds. A return trap was employed for returning the condensation to the boilers against the higher pressure and after that the system worked quietly day and night under a uniform pressure of 2 pounds at all times. If more leeway in boiler pressure fluctuation had been desired a higher normal pressure might have been provided for.

These are simply a few illustrations of the use of a reducing valve on a live steam system.

In the case of exhaust heating a reducing valve is always employed for supplying additional live steam at low pressure, when the exhaust proves insufficient or when it is cut out entirely through shutting down the engine.

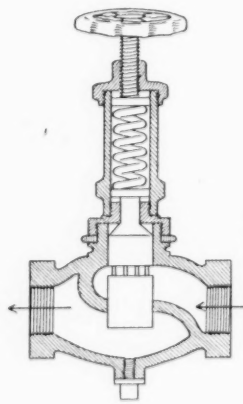


Fig. 2.

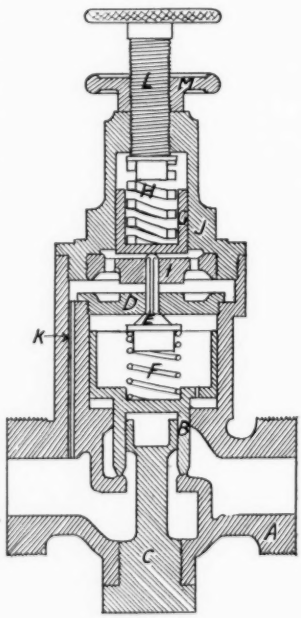


Fig. 3.

The typical method of connecting a reducing valve into a system of piping is shown in Fig. 1. Cut-out valves are placed each side of the reducing valve and a by-pass around it for use in case of repairs. Under these conditions the cut-out valves are closed and the by-pass opened just sufficiently to maintain the desired conditions on the low-pres-

sure side. If the steam requirements are fairly constant the by-pass valve will not require very much attention, after it is once set, but if the demands vary somewhat, a man should give it constant attention and change the amount of throttling from time to time as may be required. A small pressure gauge, connected into the main on the low-pressure side of the valve, should always be provided and so located as to be plainly visible when setting the reducing valve or operating a hand throttle valve. A precaution in heating plants, which do not always have the undivided attention of an engineer, is a small safety-valve connected with a steam whistle, tapped into the low-pressure main at some point beyond the reducing valve. In case the latter should fail to operate properly for any reason and the pressure rise 5 or 10 pounds above the normal, the whistle will blow automatically upon the opening of the safety valve and give the alarm.

In order to install a reducing valve properly, and do the necessary adjusting and repairs afterward, it is important that the fitter should understand the principle, upon which it works, and the more essential details of construction.

The principles employed in different makes of valves of the same type are practically the same, although the details of construction may vary more or less. For this reason, the former may be discussed to advantage in a general way in the present article, while the latter one best studied from diagrams given in manufacturers' catalogues. For purposes of illustration a number of different cuts have been selected, which bring out clearly different types of valves. There are many other valves of equal merit with those shown, and these have been selected simply because they were of standard make and the illustrations brought out particularly well the special points it was desired to show.

One of the simplest forms of valves is shown in Fig. 2. This is especially adapted to cases where pressures of 25 pounds or more are desired on the light side, and where a little swinging of a weight and lever would be objectionable. High-pressure steam enters at the right, as indicated by the arrows, passes through the series of small holes in the hollow piston and acts on the lower side of the upper head. At the same time the steam passes through the lower end of the piston, which is open, to the outlet and thence into the low-pressure main. When the pressure reaches the desired point, for which the valve is set, the piston is forced upward against the tension of the coil spring, which either closes or partly closes the small ports and so reduces the flow of steam. In continuous operation the piston takes a position which allows just enough steam to flow through the ports to maintain a balance between the spring and the reduced steam pressure on the head of the piston.

The general principle of the valve, shown in Fig. 3, is similar to that just described, although the construction is somewhat different. In this case steam at the reduced pressure passes up the small opening, K, into the space beneath the controlling piston, G. When the pressure reaches the point, for which the valve is set, the piston is raised against the force of the coil spring, H, which allows the check valve, E, to be closed by the coil spring below it, thus cutting off communication between chamber F and the low pressure side of the valve. High pressure steam, leaking past the valve piston, B, passes through the small hole, near B, into chamber F and gradually accumulates sufficient pressure to force down the valve B, and so cut off the flow of steam through the valve, as indicated by the position shown in the cut. When the pressure on the light side drops below the normal, the piston, G, is forced down by spring H, which also opens check valve E and allows the pressure in chamber F to fall to that on the light side; any small amount of high-pressure steam, passing through the pinhole into F being equalized by the larger passage through the check valve. The pressure on the top or larger end of valve-piston B being reduced it is forced up by the high pressure steam acting on the annular ring on the lower side, and the main valve again opened to the flow of steam.

The valve is adjusted for different reduced pressures by the screw L, which changes the tension in coil spring, H.

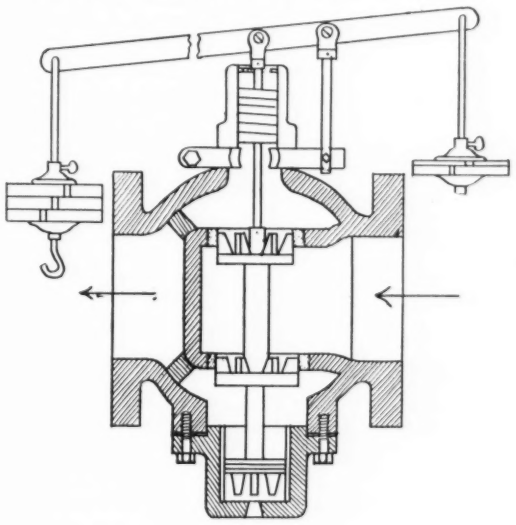


Fig. 4.

A valve, in which the spring is replaced by a weighted lever, is shown in Fig. 4. A double-ported balanced valve regulates the flow of steam from the high pressure to the low pressure side as indicated. The top of the valve stem is attached to a piston acted upon on the upper side by a weighted lever. When the reduced pressure reaches the maximum desired, the piston is forced up against the action of the weights, thus closing or partly closing the main valve. Adjustment is made for different pressures by changing the weight.

The valve shown in Fig. 5 makes use of the following essential parts: A main valve operated by a loose-fitting piston; a secondary valve in the top of the chamber over the piston; a metallic diaphragm and a side passage connecting the space under the diaphragm with the outlet. When the reduced pressure reaches the minimum, for which the valve is set, the spring over the diaphragm expands and forces it down, thus opening the secondary valve and allowing the pressure above the loosely-fitting piston to fall to that of the reduced side. This causes the main valve to be opened by the force of the high pressure steam, acting upon the lower side of the piston. When the reduced pressure reaches a maximum, the diaphragm is forced up, thus closing the secondary valve, and high pressure steam leaks past the loosely-fitting piston and closes the main valve.

The valve, shown in Fig. 6, makes use of a double-ported balanced valve and a large diaphragm, forced downward by a special arrangement of levers and coil springs. In operation, steam enters at A and, flowing in the direction of the arrows, passes out at B. In its passage it enters the chamber D, through port E, closing valve 4 against the opposing power of the coil springs, 34. Any increased pressure on the diaphragm overcomes the resistance of the springs, thus tending to close valve 4.

Should the reduced pressure decrease, the springs will overcome the pressure on the diaphragm and force the valve open.

In Fig. 7 the valve is placed at the top and the diaphragm

at the bottom. Pressure from the light side is admitted below the diaphragm by means of a small pipe connection as indicated, and adjustments made for any desired reduced pressure by shifting the weights on the lever. The valve is double-ported and is opened and closed by changes in pressure below the diaphragm in connection with the weighted lever, which acts upon its upper side. An important matter in connection with the use of a reducing valve, which has not received the attention it should, is the size employed under different conditions.

The common method of making the valve the same size as the heating main is open to criticism for various reasons, except in special cases.

When the high-pressure steam is taken from a line of piping, the area of which is equal to or greater than the area of the valve port, the conditions of flow through the valve

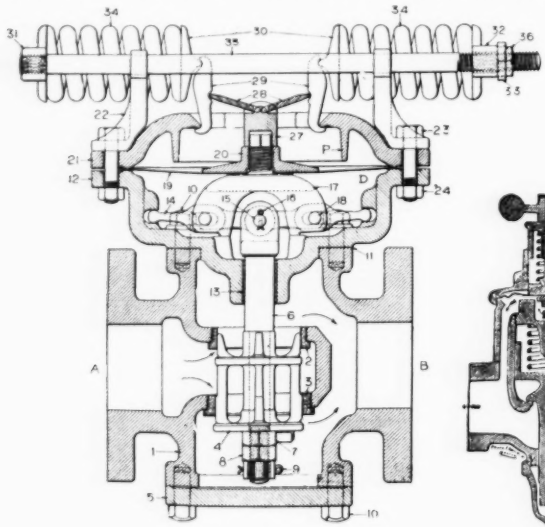


Fig. 6.

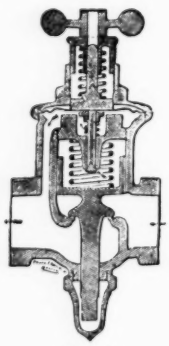


Fig. 5.

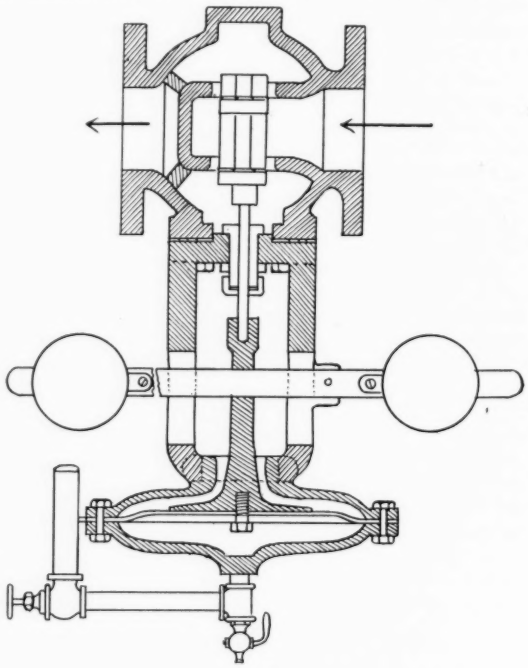


Fig. 7.

are much the same as through an orifice. In cases of this kind there will be but little variation in the velocity of flow for varying pressure differences, provided the reduced pressure does not exceed 58 per cent of the initial pressure, a condition which hardly ever occurs in heating work. For initial pressures exceeding 20 pounds per square inch, the velocity of flow through an orifice, within the limitations stated above, will run from about 800 to 900 feet per second, or approximately 850 feet per second for pressures of 60 to 100 pounds. Cutting this 50 per cent to offset the effects of friction and wire-drawing at bends and valve ports, we have a working velocity of 425 feet per second as a basis for proportioning the area of valve port. Computed on this basis we have the following discharge in pounds of steam per hour for valve openings of different diameter:

Diameter of Valve Opening, in Inches.	Pounds of Steam Discharged per Hour.
½	840
¾	1,470
1	2,380
1¼	4,130
1½	5,630
2	9,280
2½	13,270
3	20,410
3½	27,360
4	35,190
5	55,260
6	80,860
8	138,200

The excess of capacity, when the valve is made the same size as the low pressure heating main, is shown in the following comparison. Taking a 6-inch main and allowing a drop in pressure of ¼ pound between the two ends, there will be approximately the following weights of steam discharged per hour for mains of different length, assuming an initial pressure of 1 to 2 pounds:

Length of Main	Pounds of Steam per Hour
100 ft.	3,120
200 "	2,184
300 "	1,800

A 6-inch reducing valve, from the preceding table, will discharge 80,860 pounds in the same length of time, when the port is fully open. This goes to show that valves proportioned in this way are much too large, which not only adds unnecessarily to the first expense but also to repairs, because when only slightly open wire drawing and scoring of the valve seat are sure to occur. Furthermore, when the valve lift is slight, foreign substances are liable to clog the opening and either obstruct the flow or injure the seat.

Making due allowance for the frictional resistance of the various valves and fittings as shown in Fig. 1, and allowing one-third of a pound of steam per square foot of direct radiation, per hour, which also cares for the pipe connections, we may safely use the following figures:

Inlet, Inches	Outlet, Inches	Square Feet of Radiation
½	1	2,500
¾	1½	4,500
1	2	7,000
1¼	2½	12,500
1½	3	17,500
2	4	28,500
2½	5	40,500
3	6	63,000
3½	8	84,000
4	8	108,000
5	10	170,000

In making the connections, the high pressure line brought to the valve should be one size larger than the inlet, to insure a full supply of steam at maximum pressure. The by-pass may be made the same size as the valve inlet when a gate valve is used. These sizes, it will be noticed, are based on the square feet of radiation to be supplied and do not depend in any way upon the size of the low-pressure heating main. This, however, should never be smaller than the valve outlet, and, when approved methods are used in proportioning it, the diameter will be found to be somewhat greater than the valve outlet given above.

(To be Continued.)

The WHY *and* WHEREFORE *of* SANITARY ENGINEERING

A Series of Articles on Technical and Scientific Plumbing and Sanitation

By Arthur Bateman

(Continued from Page 44 in the July 13th Issue.)

Consider now the weight or pressure of the atmosphere. The air above us, composed of the gases previously mentioned, possesses weight and exerts an enormous pressure at sea level. At a distance of fifty miles above the earth, we have to speculate on its composition and density, but as we descend it is found to increase in density very rapidly, and on reaching the sea level we observe a weight or pressure of 15 pounds on each square inch of surface.

However, it must not be forgotten that this pressure acts in every direction, and for this reason is unnoticeable under normal conditions.

A very simple experiment, which readily proves the above assertion, is illustrated in Fig. 3. Procure an ordinary glass tumbler, and a piece of paper. Completely fill the tumbler with water. Place the paper over it, then invert the tumbler. It will be discovered that the piece of paper retains the water in position, showing that the atmosphere exerts a pressure of 15 pounds on each square inch of surface, and in an upward direction.

Should the tumbler be partly filled, we will have a pressure equal to 15 pounds per square inch on both sides of the paper, and in addition the weight of water, which will force the paper down and flow freely out.

The density, temperature, composition and properties of the atmosphere at very high altitudes are discovered with

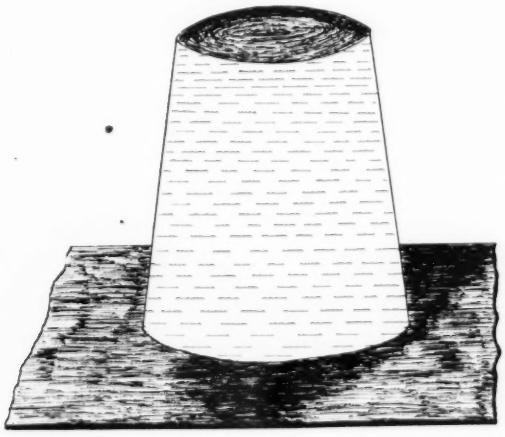


Fig. 3.

the aid of a sounding balloon, to which is attached a number of delicate self-recording instruments, and a parachute.

The balloon explodes at a certain altitude, liberating the parachute, which finds its way to earth along with the instruments, and the latter indicate the precise conditions through which they have passed. These balloons have attained an altitude of nineteen miles.

Now all siphonic action is dependent upon atmospheric pressure for its working, and it will be my endeavor to point out a number of practical examples.

Take for instance the common siphon, Fig. 4. This usu-

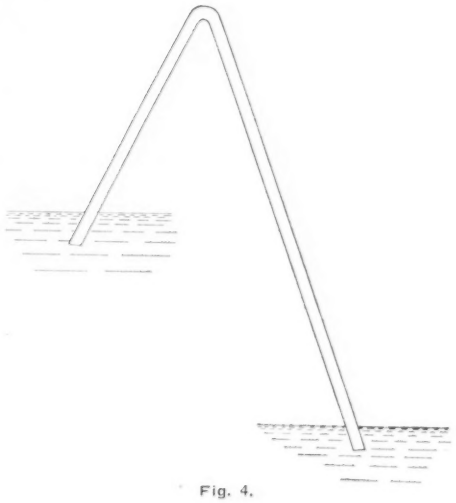


Fig. 4.

ally has the form of a bent tube with one arm or leg longer than the other, and is used for transferring liquids from one vessel to another at a lower level.

Let us assume that we have a receptacle containing a liquid into which dips the short leg of the siphon, while the longer leg remains below the receptacle with open end. To operate the siphon, the air in the tube must be exhausted by applying the mouth to the open end, or displacing the air with water poured down it. A partial vacuum (space void of matter) is thus formed, and the liquid is forced up the tube by atmospheric pressure, which is pressing on the surface of the liquid in the receptacle with a force equal to 15 pounds on the square inch.

This pressure is sufficient to support a column of mercury 30 inches in height. The specific gravity of mercury being 13.6, or in other words, mercury being 13.6 times heavier than water, bulk for bulk, we learn that $30 \times 13.6 = 408$ inches $= 34$ feet, which is the maximum height the water will be raised.

In practice it is usual to base all calculations on the vertical height of 28 feet, but the maximum for pumps may be taken at 25 feet, as much slip is lost through defective valves.

An intermittent siphon is similar to the above, but the flow

is not continuous. The arrangement is such that the outflow of the siphon exceeds the inflow, consequently the water level is lowered until it reaches the short leg of the siphon, admitting air and producing an equal pressure on each side, which immediately causes the flow of water to cease.

A very good example of an intermittent siphon may be cited in the case of the boiler tube in a domestic hot water apparatus. This is illustrated in Fig. 5. The tube is carried to within 6 inches from the bottom of the boiler, in order to conduct the cold water to the heater. Now should the cold supply fail and a faucet be opened at a lower level than the boiler, the boiler will be practically emptied and disastrous results may occur if the fire under the heater is kept going. Siphonage in this case is obviated by filing a small hole in the tube some 4 inches from the top of the boiler. Should siphonage occur, air is admitted through the small hole and from the foregoing remarks it is obvious that siphonage will cease.

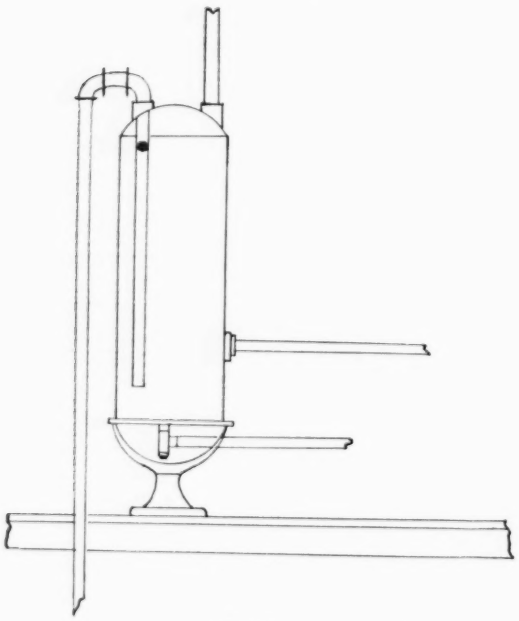


Fig. 5.

Automatic flush tanks also rely on this valuable atmospheric pressure for their working. In this extremely useful appliance, the inflowing water can be regulated to a nicety, and the tank operate every few hours or days to meet the requirements for which it is installed.

The incoming water raises the level of the water in the tank until it flows down the stand pipe or flush pipe, displacing the air and reducing the pressure, with the inevitable result, siphonage is set up.

Water closet flush tanks operate in much the same manner, only siphonage is commenced by the pull of a chain or other contrivance, which raises either a valve or plunger and allows an amount of water to displace the air. Then the weight of air pressing on the surface of the water in the tank accomplishes the rest.

Another example is the siphon-jet water closet where a jet of water is forced upwards through the trap, carrying with it part of the seal as shown in Fig. 6. This, coupled with the water flowing through the rim, produces a partial vacuum, resulting in the whole contents of the bowl being speedily forced through the trap by atmospheric pressure.

Still further, the working of all pumps are entirely dependent on atmospheric pressure. As the air is withdrawn from the suction pipe and pump barrel, the 15 pounds pressure on the surface of the water in the well forces the water into the suction pipe and pump barrel, and this in turn is delivered at the spout with each upward movement of the piston, provided ,of course, the pump is not a greater height than 25 feet above the surface of the water in the well. More will be written on the principles and construction of pumps in a latter issue.

These examples go to prove the value of the weight of air above us, yet it possesses disadvantages which necessitates considerable expenditure on our work. The writer has in mind the breaking of the water seal in traps by siphonage. Now unless an air pipe is taken off, nearly all traps at a distance varying from 3 inches to 16 inches from the crown, siphonage will doubtless occur, breaking the seals, and allowing the foul gases, for ever present in waste and soil pipes, to find their way into the interior of the buildings.

Siphonage will occur, if a quantity of water is suddenly discharged through an unventilated stack, driving the air before it and producing a partial vacuum, which is bound to result in siphonage. Again, if an appliance is used on one of the upper floors, and the main stack and traps are unventilated, the falling water, resembling a solid piston or plunger passing down the stack, will draw air from the branches, reduce the pressure in the inside, and the superior weight on the trap will force the contents out.

To obviate the breaking of seals by siphonage, it is imperative to install a system of piping known as vents and revents, as the case may be. The object of these pipes is to supply a column of air under all conditions on the outlet side of the trap, and, if of adequate size and correctly connected, render siphonage impossible.

In many localities these pipes are taken directly off the bend on the outlet of the trap known as crown venting, Fig. 7, but in progressive towns this method is prohibited, due to the fact, that it is attended with grave likelihood of vent stoppage.

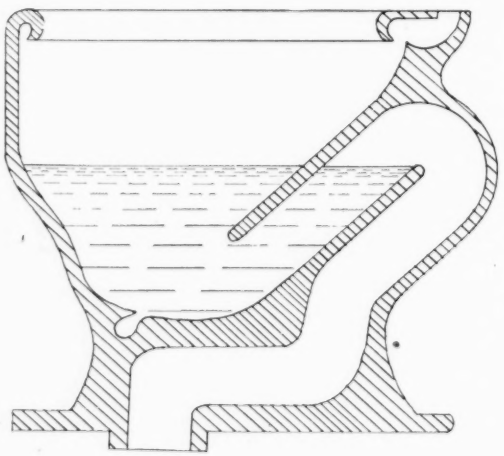


Fig. 6.

In every case the vent should be placed at least 3 inches from the crown of the trap as shown in Fig. 8, otherwise the sewage being constantly ejected into it, will in time stop it up and render it useless for the purpose it was intended.

However, it should not be located at a greater distance than 20 inches from the trap, as it is possible for a vacuum to be formed even in the short distance of 20 inches, and should this occur, siphonage will follow and allow the foul gases, always present in the soil and waste pipes, to pass freely into the interior of the building.

Undoubtedly the most proficient method of venting is known as the continuous system, as illustrated in Fig. 9. Of late, this method has found much favor in all parts of the country, and rightly so, for it is simple, cheap and efficient.

It consists of a vertical waste and vent in one piece. The trap, which usually takes the form of a P or half S, is connected some two inches below the center of the outlet of the fixture through a fitting similar to a TY, yet it forms part of the fitting itself. That portion below the trap is termed "the waste," and that above "the revent." Where this method is adopted, all the vertical lines, coupled with the horizontal wastes, can be conveniently run behind the partition with less labor and consequently cost than the other methods mentioned above.

Even when an ideal system of venting is carried out, atmospheric pressure may yet break the seal of traps by oscillation.

Fortunately this only occurs in high buildings having long lines of vertical soil, waste, and vent pipes, and during very stormy weather. At certain periods the wind blows directly down the terminal of the vent pipe above the roof

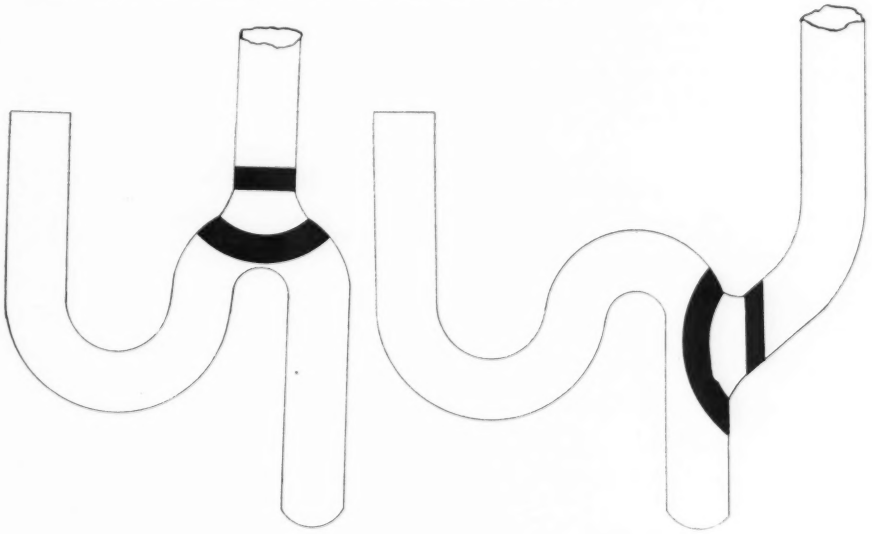


Fig. 7.

Fig. 8.

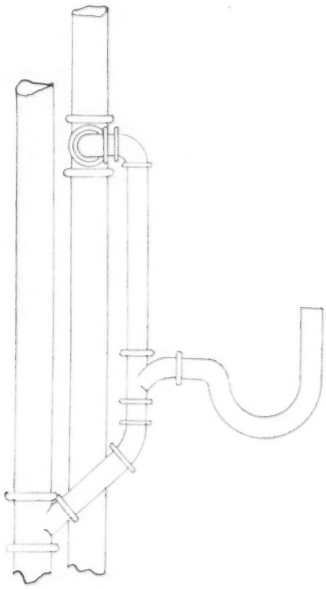


Fig. 9.

and endeavors to drive out the water in the traps into the fixtures themselves. Almost immediately the wind may divert from its original course and blow right across the top of the pipe, creating a partial vacuum in the soil and waste pipes.

This occurs so rapidly that part of the seals are likely to be carried over the outlet of the trap, and should this alternate compression and vacuum be continued, the entire seal will be gradually carried into the soil or waste pipe and lost.

Another disadvantage to this wonderful atmospheric pressure is the collapsing of domestic hot water supply boiler.

It is not uncommon for boilers to collapse during the winter months, the chief danger being from frost. The collapsing of the boiler most frequently happens in the gravity supply system where the expansion pipe is discharged into the supply tank, which is oftentimes exposed to frost. The collapsing of the boiler used for domestic hot water supplies may be explained in this manner.

During the winter season a large fire is kept in the cooking range, causing the water in the heater and in the boiler to attain a very high temperature. The water in the heater, circulating pipes and boiler expands considerably, due to the increase in temperature, and in expanding rises in the expansion pipe. The water is now frequently emitted in spasmodic spurts from this pipe, which is terminated over the tank. It being a frosty night and the tank being in an exposed position, the water cools and solidifies gradually at the outlet of the expansion pipe, until it becomes hermetically sealed; at the same time the supply pipe to the boiler also becomes stopped by frost. The fire in the heater is now allowed to die out and while cooling, the water contracts both in the heater and boiler, and in so doing a partial vacuum is formed in the boiler. Now when this reduction of internal pressure takes place, the external atmospheric pressure is such that the material of which the boiler is constructed is not sufficiently strong to withstand the enormous external pressure exerted on the boiler, with the result that the body or sides of the boiler are crushed in or in other words, the boiler collapses.

This may be obviated by fixing a vacuum valve as close to the boiler as practicable. Under normal conditions, the water pressure in the system keeps the valve closed, but as soon as a partial vacuum forms in the boiler, the external atmospheric pressure of 15 pounds per square inch exerted on the valve opens it and allows air to find its way into the boiler, thus equalizing the internal and external atmosphere, which obviates the collapsing of the boiler.

A very interesting and simple experiment, which can be carried out by every reader, will help to retain this knowledge for all time and is as follows:

Procure a thin tin can with small opening and tight fitting stopper. Put in about one inch of water, then boil it. Steam will fill the can and escape through the opening. Now remove the can from the source of heat and insert the stopper quickly. The steam will condense into water and thus leave a partial vacuum in the can. The external atmospheric pressure of 15 pounds per square inch will then crush in the sides of the can until it becomes a mass of twisted metal.

Before leaving this subject the influence of atmospheric pressure on the boiling point of water should be considered.

Under normal conditions and at sea level water boils at 212 degrees Fahr., but this is increased or decreased as the pressure is increased or decreased.

When a kettle half full of cold water is placed on the fire, the space above the water contains a mixture of air and vapor

(Continued on Page 344.)

LEGAL QUESTIONNAIRE

*Is a Garage Owner Liable for a Stolen Auto Truck? Can a Finder of Stolen Auto Claim Charges for Storage?**

By "The Judge"

Garage Owner's Liability For Stolen Car—Right Of Finder Of Stolen Auto To Storage Charges.

Editor "Domestic Engineering":—Several weeks ago my auto truck was stolen from the garage, where I keep it, and was found by a man on the road, outside the city, in a very much damaged condition. As it was almost a total wreck, and as I got into an argument with the garage owner over the affair, I did not do anything about caring for the machine. A man living near where the car was found, without consulting me, took the machine and put it in his barn. This latter party now refuses to give the car up without my paying his charges for storing it. What are my rights against the garage owner, because the car was stolen, and can the other man claim a lien for his charges? A. D. H.

Answer:—As your auto truck is almost a total wreck I assume that you are more interested in your rights against the garage owner, and I shall discuss your rights against him first.

The rights, duties and liabilities of garage owners are similar to those of a livery stable keeper. As to motor vehicles and accessories left in his care he is considered a bailee for hire, and as such is liable to the owner for any loss or injury resulting from his or his servant's wrongful or negligent acts or omissions. In regard to an auto truck left in his garage he must exercise that degree of care to see that it is not stolen, which a prudent man would exercise over his own property under similar circumstances.

Another way of stating a garage owner's liability, is that he is bound to that degree of diligence, which the manner and nature of his employment make it reasonable to expect of him, and that anything less than this is culpable in him. Emphasis is frequently put upon the fact that a bailee for hire is not an insurer. This latter fact would be applicable to a case where a garage burned down, the garage owner not being liable for loss in such a case, unless it could be shown that he or his men were negligent.

That which is necessary to constitute ordinary care has been defined as graduated according to the value of the property, the convenience of its being made secure, the facility for its being stolen and the temptation thereto. So, ordinary diligence means that degree of care, attention or exertion which, under the actual circumstances, a man of ordinary prudence and discretion would use in reference to the particular thing, were it his own property, and the want of such care and attention may be described as ordinary negligence. Where the bailment, as in your case, was for your mutual benefit, that is, the garage owner was to receive compensation, and you were to have your car stored with him, he is required to use ordinary care in keeping it safe, as described above. It follows that to prove your right against the garage owner, for the theft of your truck, you will have to show that he was negligent.

All the surrounding facts in the case will have to be gone into, before it can be determined whether you can successfully sue the garage owner. For instance, if you can show that because of the arrangement of the garage and the number of men employed and their usual course of conduct, such as doing work in a distant part of the garage, leaving the exit unguarded, you could probably show that the owner or his men had been negligent. Negligence in hiring incompetent help, such as men addicted to the use of liquor or men so young that it would not be considered that they would be responsible persons to entrust with the care of automobiles under such circumstances, would be in your favor, if you can prove it.

To sum up, it is not probable that the mere fact that your car was stolen would give you a right to claim damages for its loss from the garage owner. You would have to go further and show that there had been negligence of some kind. On the other hand, while the theft of the car will not give you a right to damages of itself, technically, we all know that it would be a great practical help in proving negligence, for the fact that it was taken without the knowledge of the garage people would go to show that there was something the matter with the system. It is probable, also, that sufficient investigation will give you facts, which will prove negligence to the satisfaction of the court.

Now with regard to the right of the man who found your truck and stored it for you, to a lien for his bill. I assume from your statement that the finder of your car placed it in a stable, that he was not a public garage owner. As such, in many states, he would have a lien for his storage charges, if the car were placed in his garage with the consent of the owner.

You do not state in your question whether the man took the car into his stable knowing that you owned it, or having reasonable knowledge that you owned it. If the number plates, for instance, were not so damaged, but that it could be ascertained who owned the car, or if the number plates had not been changed, your rights would be different from what they would be, if the finder could not have ascertained the owner of the car.

If, at the time the party stored your car, he did not know that you owned it and could not have ascertained that fact with reasonable diligence, he would be considered a finder, particularly if you had not abandoned the truck. Of course, if you had really abandoned the truck, relying upon your claim against the garage owner, the finder would get title to it. As I assume that you had

*Every Effort is made to the End that these Answers may be authoritative. However, we cannot assume any Responsibility because of the very Nature of the Service, which is rendered without a personal Interview.—Editor.

not in fact abandoned the truck, I shall discuss the situation from that angle.

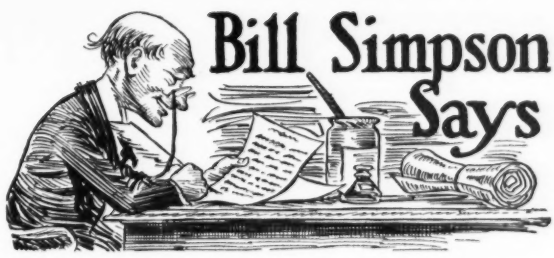
By the general rule of common law, one who finds and appropriates a lost piece of property acquires the title thereto and the right to possession thereof against all the world except the true owner. The finder of a lost chattel (personal property) should restore it to its owner, and generally in the manner provided by statute. In most cases finders do not advertise articles which they have found, but under the laws of most states a finder does not really get good title to the property unless he advertises his finding.

Apparently, under the facts as stated by you, the man who found your car, has no lien for his storage bill. In the absence of an offer of reward, the finder has no right to a reward for the finding of the lost chattel. This rule is carried so far that if a reward is offered, but no definite sum is stated, no lien attaches to the article found in favor of one who has cared for it. The finder is, however, entitled to be reimbursed for his necessary expenses, for the preservation of the property, and perhaps for his time and trouble. So, at the most, the man who found your truck may have a claim against you for storing the car, but he cannot refuse to give it up to you unless you pay him first. He will have to give it up and then bring suit against you, if you refuse to pay him.

If the finder of your truck refuses to give it up, he might be guilty of larceny, particularly if he knew or could have known that it belonged to you. If goods are found under such circumstances that there is absolutely no clue to the ownership, that is, no reasonable expectation that the owner will find the goods, the finder has a right to take the goods for his own use.

If there is any clue to the ownership of lost property, the finder, who takes it for himself, is guilty of larceny. The question whether a clue to ownership exists does not depend upon the actual facts, but upon the reasonable belief of the finder at the time of the finding. It is also true, however, that if the finder, discovering the clue, took your truck in good faith to keep for you, he has such possession that if he afterwards forms the intent to steal and appropriate the property to his own use, he is not guilty of larceny in one sense, because he was already in possession. He might, however, be guility of embezzlement. As it has been stated in one case, where the finder of lost property, although he may have a clue to the owner, or know who the owner is, merely detains it temporarily in the hope of obtaining a reward, he is not guilty of larceny. If, on the other hand, his intention was to return it only in case a reward was offered and given to him, he is guilty of larceny in the taking of it.

I mention this larceny phase of the situation, simply to suggest that there may be facts in the case, which will enable you to scare the finder into giving up the car without further trouble for you. It is always well to remember, however, that threatening a man with criminal process to get something from him is oftentimes construed as blackmail. This latter point is not generally understood by business men and frequently places them in situations, where they have to give up otherwise perfectly good claims. I have known of several instances where worthless checks for considerable amounts have been in dispute between parties, and the maker, after aggravating his opponent to such an extent that he threatened criminal process, then laughed at his future demands for payment, because he had very good grounds for starting a blackmail suit against the party who was really in the right.



(With Apologies to K. C. B.)

Every issue of "Domestic Engineering"
* * *
Is crammed full of interesting
* * *
And helpful articles, giving
* * *
The *other fellow's experience*
* * *
In *your* line of work.
* * *
In the course of a single year
* * *
You will probably find
* * *
Several hundred valuable
* * *
Stories, hints, suggestions, plans,
* * *
And so forth—
* * *
All of which can be adapted
* * *
Profitably to your own work.
* * *
There is just one way, in which
* * *
You can get maximum benefit
* * *
From this rich store of information,—
* * *
Start a FILE in which you
* * *
Can keep every article, plan, etc.,
* * *
Which you wish to preserve.
* * *
When you file an article
* * *
Make out *several* 3x5 index cards—
* * *
Cross-indexing it under several
* * *
Different subjects. Keep these
* * *
Index cards on your desk, where
* * *
You can refer to them frequently.
* * *
Don't try to overload your memory
* * *
Keeping track of printed information.
* * *
Preserve it in your file—properly
* * *
Indexed—and You'll Always Have It
* * *
When you want it.
* * *
Why not start
* * *
Your file with the complete
* * *
Building Better Business campaign?

"A man betrays hisse'f by braggin'," said Uncle Eben. "When I hears a man tellin' 'bout how easy he kin drive a mule, I knows right off he ain't no reg'lar mule driver."—"Washington Star."

QUESTIONS & ANSWERS

"FLY-BY-NIGHT" PLUMBING WORK.

Editor "Domestic Engineering":—Herewith you will find a photograph of a local seat vent, Fig. 1, which I took out. It was connected directly up to the sewer and seat vent of the closet. The offset was connected to a 4-inch soil pipe on the floor without any trap to sewer. The people were continually complaining about the smell.

I would like to have you publish this in your "Questions and Answers" with comments. Doesn't this look like the work of a "fly-by-night" plumber?

Indiana. Ph. S. F.

There is work ahead for the bona-fide plumbing contractors in Indiana, if they wish to maintain their excellent reputation for high-class sanitary plumbing. The above letter and the photograph, reproduced herewith as Fig. 1, show that there's a fellow somewhere, who has done some awful plumbing work, in one of your beautiful cities. We do not know his name or address, but if he is still in the plumbing business, the sooner you find him the better it will be for the cause of modern sanitation in your state.

Fig. 1.

Judging by the horribly insanitary character of his work, we are sure he needs attention badly. We don't mean bodily punishment or anything like that. That's the way they used to teach violators of law and decency long ago, when the West was young. This letter and photo tell a story of ignorance, recklessness or criminal negligence on the part of somebody somewhere.

Just how a man would dare to endanger the lives of people that way is beyond our comprehension, unless it be a case of extreme ignorance.

The man who did that job is most likely not a plumber. He has somehow escaped the vigilance of the plumbing inspectors, and perhaps is still at work. Perhaps he is even now running amuck, spoiling good plumbing work, and doing an unknown amount of damage to the health of the people who trust him. So we repeat: Get after that violator of your plumbing code and give him attention. If he is "rounded up" and given a little more education on the principles and practice of American plumbing, as they are expounded from time to time in the columns of "Domestic Engineering," he may yet become a decent and valuable member of the craft, instead of a menace to public health.

If you find him let us know, please, and we will forward him a copy of "Domestic Engineering" containing valuable information on the subject of local venting closets.

Local venting plumbing fixtures is not a very difficult matter to understand. But the vent, which was taken out by correspondent was certainly wrong.

Fig. 2 shows our interpretation of his letter and photo. There is a trap inside the closet to prevent drain air, or sewer gas, as some people call it, from entering the house via the closet route. That trap was moulded inside the closet at the pottery, at considerable expense. All plumbers nowadays know the value of that trap and appreciate its functions so much that its seal is religiously protected against siphonage, etc. Yet that unknown man in Indiana by-passed the closet trap with his local vent, as in Fig. 2, allowing sewer gas to freely escape into the house, as shown by the arrows.

A local vent should never be connected to the house discharge system in any way, not even to one of the vent stacks. The local vent must have a discharge of its own, separate from and independent of the house drainage system and its vents.

Fig. 3 shows how the vent connection might have been run at the back of the closet. It connects to local vent horn at back of bowl, is then run inside partition, thence up to attic, or through roof. Of course, this is not the most perfect way to run the vent, because there may be times when such a vent will not have an upward draft. At such times the vent is useless. To have a good draft at all times the local vent should be warmer than the air, or should have a fan to pull air through it.

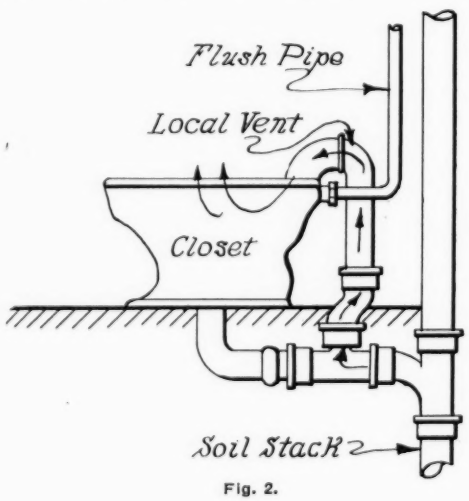


Fig. 2.

In domestic work the fan is out of the question. It is all right for hotels, office buildings, etc., where a large number of closets are set in battery form, or where the toilet rooms are in inside rooms or basements, where natural light and ventilation cannot be had. But in residence work we usually have to depend on natural ventilation to accomplish the desired results.

Lots of attempts at local venting have been failures in residences where the local vent lines have been run up inside cold walls to roof, etc. These failures were very much in the way of cold down drafts, which, to say the least, are not pleasant things under closet seats.

Yet local vents in themselves are excellent adjuncts to toilet fixtures. If they work right they carry away in a silent and unnoticeable manner all disagreeable effluvia from the fixtures. That certainly is a step forward in sanitation. But the local vent drafts must always be upward and never downward—that is from the bowl to the outer atmosphere—and never from the outer atmosphere toward the bowl.

Cold local vent lines do not assure this desirable result. The draft descends as easily as it ascends in them. Therefore, cold local vents are not always a success. They are better than the plan shown in Fig. 2, of course, but they are not right.

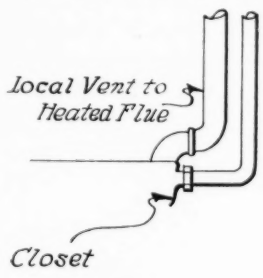


Fig. 3.

To insure success in local venting closets by natural draft, it is necessary to have the local vent stack warm. Possibly the best way to do this in a residence is to run the vent pipe up alongside a continuously warm flue, such as the flue from a coal range in kitchen.

In small residence work the bathroom is frequently located directly over the kitchen. Sometimes the chimney runs up inside the bathroom, sometimes in a bedroom just back of the bathroom. Anyhow, it generally is near enough so that a local vent from closet can be run up against the chimney.

Fig. 4 shows how this may be done. It is a plain view of the corner of the toilet room containing the closet. The closet is set against a partition in the usual way. Back of the partition is the chimney for the kitchen range on the floor below. The flue may be only 8 inches by 8 inches, and the brick work may be only 4 or 4½ inches thick, but that chimney will be warmer, more or less, than

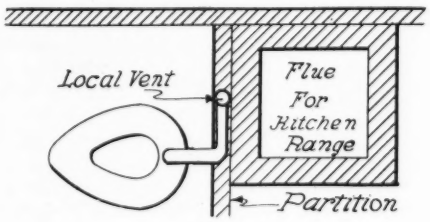


Fig. 4.

the outer air, and consequently there is a draft in it for the kitchen range.

If the local vent is carried over, and run up against this chimney, as shown in Fig. 4, and cold drafts in partition between the studs are blocked off by beam filling, the same vent which produces a draft for the kitchen range will produce a draft for the local vent. This desirable result will be accomplished without in any way affecting the kitchen range or its draft.

Some plumbers who may be overladen with a desire for the short and easy way of doing things, may be tempted to just punch a hole through the chimney and insert the local vent flue therein, believing that this expedient will assure an excellent draft in local vent and save piping and labor. But don't yield to that temptation. You surely will save pipe and labor, and obtain a good draft for local vent, but you are liable to spoil the draft for the kitchen range.

You know what happens when a 2 or 3-inch hole is punched in a 6-inch smoke pipe. You know what happens to the draft of a steam boiler when the check draft damper is opened. You know it "kills the draft." Well, the same thing will happen if you run a local vent directly into a chimney flue. It will kill the draft for the range below.

Now we think we have said enough on this subject at present, and we trust that the local-vent tragedian of Indiana will soon be found. We hope he will discover the error of his way, repent, turn over a new leaf, and become a good plumber citizen of the great and highly respected state of Indiana.

TRANSPORTING OUR TROOPS.

The world has been astonished at the great number of American soldiers transported to Europe in the last half year. The number now approximates 1,500,000, and the loss of life in transporting them has been almost infinitesimal.

The success with which we have moved our troops from the scattered camps in this country and across 3,000 miles of ocean to the battle front is great evidence of American efficiency. We have not only surprised our enemies; we have surprised our friends and ourselves.

The British controller of shipping, Sir Joseph Maclay, speaks of this movement across the sea as "A transport miracle." We have been inclined to attribute this achievement solely to our Navy and our shipping, but the British controller speaks in high praise of the share the American railroads had in the work. He says:

"If the American railroads had not been operated with success the whole transport movement might have failed, because it was essential to quick transportation that the troops should be ready for the ships."

Director General McAdoo seems justified in his statement that while the development of the policy of the Railroad Administration requires time, progress has been made toward the goal.

BAD NEWS FOR BERLIN.

The war news from the western front these days is bad news for the German people. Quotations from German newspapers portray the gloom that overhangs the people in the large cities. That the people in the small towns and country are equally depressed is not to be doubted.

The Liberty Loan bond buyers of the preceding loans have their share in the success of the entente allies. They furnished the sinews of war not only to fight the U-boats and to build ships, not only to raise, equip, and send our soldiers over, not only to supply them and our allies with food and munitions, but more than $6,000,000,000 of their money has been loaned to our allies so that they may prosecute the war with vigor and strength.

We here at home have an opportunity to send the Germans some more bad news. The Germans have great respect for money; they know its vital value in waging war. They know, too, that the support the American people give a Government loan measures largely the support they give their government, the moral as well as the financial support they give their armies in the field.

A tremendous subscription to the Fourth Liberty Loan will be as distressing to the German people as a defeat for them on the battle field, and it will mean as much.

RAYMORE *and* COMPANY
PLUMBING *and* HEATING
SUPPLIES

How One Plumbing Contractor Secures His Share of Remodeling the Plumbing in Old Residences

By Daniel Louis Hanson, Author of "Moses Irons' Stories"

"I AM heart, soul and pocketbook in this Replacement Campaign," said Nathaniel Raymore to a number of master plumbers, who happened to be in his office one June afternoon, shortly after the St. Louis convention, "but we as a trade must guard against letting the mass action take the place of individual effort. If it does that, the whole plan will result in but little good being accomplished." And then he told the story of Erasmus Claypohl, a master plumber and fitter in Buffalo, to illustrate his point.

I.

Claypohl had always expected a war or something else, which would knock the building lines into a cocked hat; that is, Erasmus Claypohl was one of these men who worked in today, but at the same time was continually laying plans for tomorrow's work. What is it going to be, where is it coming from? He was standing solidly on today's business, and using that as a vantage point from which to book tomorrow's orders.

This keeping his feet on today's business, using the present solid foundation for his observations of the future, is what marked Claypohl as different from the mere dreamers, who are up in the air, and consequently make no progress in doing things. The mere dreamer never gets anywhere; it's the vision-seer, who helps revolve the world on its axis. Erasmus Claypohl was a vision-seer, as well as a master plumber and fitter. There are many like him in our craft—the story of the last few months will reveal their names.

Claypohl's shop was on Main Street, which is the main street of Buffalo, as every person with a sidetrip ticket to Niagara Falls knows, and it was and is, and will continue to be, an up-to-date shop both in its administration of business in hand, and in reaching out for more business. There is that show-window of Claypohl's, but that's another story.

"Work for tomorrow is coming," was Erasmus Claypohl's motto, and he kept it ever before him.

Phil Harton had picked up Claypohl as a customer during those years that the Boss was gallivanting around Europe and showing his unbounded admiration for certain groups of royalty, against which he was to help wage war in the not far distanct future, and Claypohl had stuck as a customer. Something the sales-manager had said to Mr. Raymore regarding the Buffalo plumber's methods of doing business, selling especially, had so impressed itself on that gentleman's memory, that one day, his train being enough hours behind time to land him in Chicago at night, he stopped over till the evening train and paid Erasmus Claypohl a visit of half a day.

The master plumber was busy with a couple of customers at the time of Raymore's entrance, who were looking over fixtures, so after a brief greeting the manufacturer found a seat near the private office, yet close enough to overhear the conversation carried on in the showroom.

"We want to confine ourselves to just the simplest and most necessary fixtures in this new house—" said the woman to Mr. Claypohl. "It isn't as if we had a large family to look after,—they are all shifting for themselves now." She was well over the fifty mark, if a guess is permissible.

The master plumber evidently understood the situation: "Just so, you don't want to clutter your new home up with a lot of unnecessary plumbing and heating paraphernalia. You want the best there is and just enough of it. You will want a closet and lavatory on the living floor, of course. Running up stairs to wash one's hands isn't the handiest for any of us, however young and agile we are. Then when we have guests—"

"That's true, though we hadn't figured on that, had we, John?" and she turned to her husband, who was evidently letting her direct the matter. "I suppose we had better have a small lavatory,—yes, that's an excellent idea, the lavatory separate from the closet! Put that down on the list, Mr. Claypohl."

"That's all for that floor, isn't it?" asked the husband.

Evidently the kitchen and the laundry had already been looked after, for the master plumber could suggest nothing more for that floor level.

"On the second floor we will have just a bathroom with the three fixtures," said that woman.

"Certainly" replied Claypohl making some notations on his list—or at least appearing to do so. "There is a nursery on this floor too?" he added in an interrogative tone.

"For our grandchildren," explained Mrs. Lupton, for so the plumber had addressed her.

"Certainly, the nursery is at some distance from your apartments?"

"We thought best to have it that way."

"A most excellent idea. The little ones do get noisy occasionally—" and Mr. Claypohl chuckled, as if in reminiscent humor. "Now wouldn't it be clever to have a nursery bathroom, too? This space under the eaves—a storage room

now, could easily be utilized for that purpose. Here will be the downstairs stack, and we can utilize that. Possibly a full length tub for the adult in charge of the children; a lavatory and a toilet with a child's seat on top of the regular. Ah, here we have just the idea in this little alcove here—," and the master plumber took the couple towards the front of the store and, for the moment, out of hearing from Mr. Raymore, who had been enjoying the sales talk immensely.

When they returned, the nursery bathroom had been decided upon, the architect was to be asked to sketch in window and finished interior. Some decision also had been arrived at regarding extra lavatories in the five upstairs bedrooms, for Mrs. Lupton was discussing that as already settled.

"You see, John," this to her husband, "it makes five extra fixtures upstairs, besides that other complete bath, but why shouldn't we have things comfortable we haven't so very many years left, in which to enjoy life, at least I haven't, then there's the grandchildren, why, the dear kiddies shall have everything comfortable, if we have to sell some stock!"

"Have I ever opposed the idea?" asked the husband.

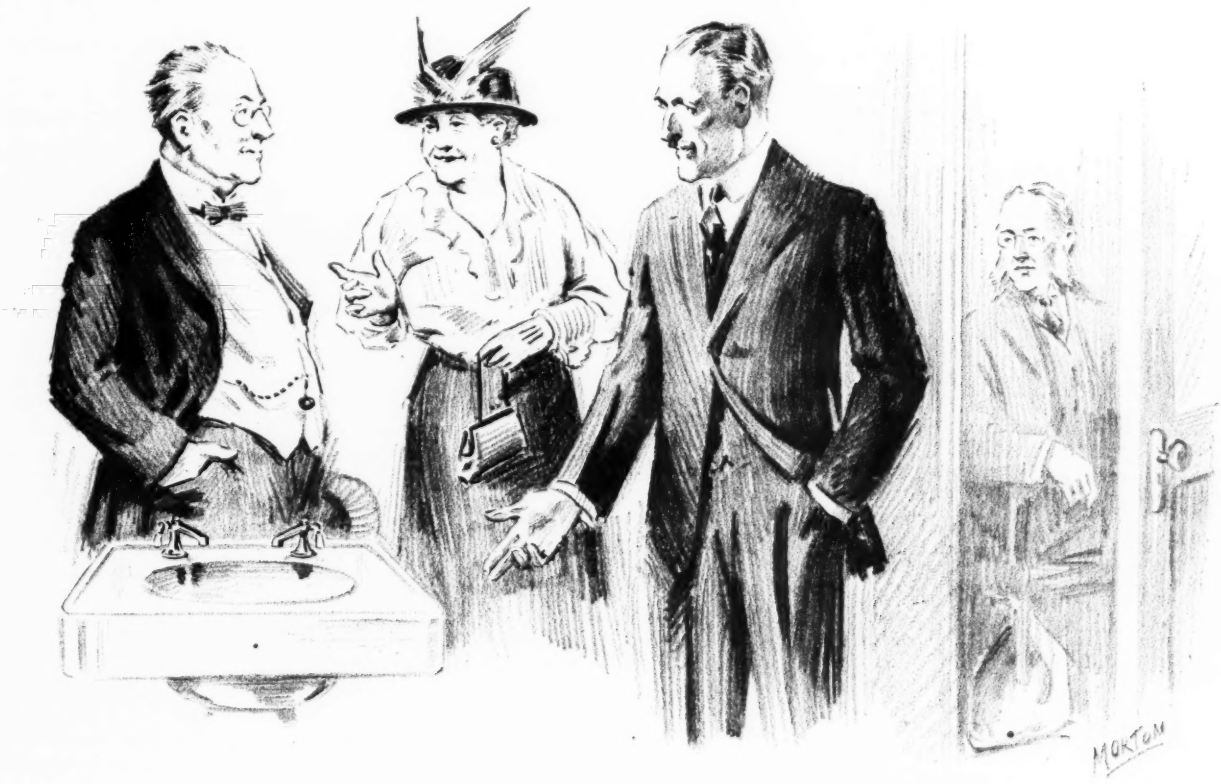
"No, I don't say you have—but it's time we had things real comfortable, isn't it?"

At this point, Mrs. Lupton recalled she had an appointment with her dressmaker, which would preclude any further discussion of the plans till the next day: "We will talk the heating over tomorrow," she said to Claypohl, "and don't forget, please, to call Mr. Lupton's attention again to the garage drain, I am sure that otherwise he will be asphyxiated —or what is it they call it?—while sitting in the place admiring his car."

Mr. Claypohl escorted them to the door, not failing to call attention to an instantaneous heater in one of the alcoves, at which his customer said: "I really must look at that tomorrow, please jot it down. And that reminds me, please tell Mr. Lupton tomorrow about that individual system for garage heating, you advertise in this week's papers."

"I couldn't help but hear part of your selling talk, Mr. Claypohl," said Mr. Raymore as the master plumber joined him, "and it was mighty clever! My salesmanager tells me that you specialize on oldish people."

Mr. Claypohl, a man of some fifty, looked around, as if in fear that some one might have overheard that "oldish," then replied: "Possibly Mr. Harton meant people 'settled down in life.' Yes, I do. I have done that for some years past. Of course, I don't advertise myself as so doing—except to myself, but I find that the folks approaching the top, which I call fifty, are a little more susceptible to suggestions looking towards real comfort. Mrs. Lupton spoke it out to her husband, you will remember. And Mr. Lupton was tickled to death that she felt that way. I suppose the architect ought to have grasped that idea, when drawing plans and specifications, but what are we master plumbers and heating men for, if not for that very thing, selling our goods?"



No, I Don't Say You Have, But It's Time We Had Things Real Comfortable, Isn't It?"

"You must have doubled the amount of work in your line for that residence!" said Mr. Raymore, stroking his portierre whiskers in admiration of Mr. Clayphol's selling efforts.

The master plumber coughed modestly: "A little better than that, I should hope; besides there is the heating yet, and the garage. I hadn't said anything about the garage, but took pains to enclose a little circular of the system of heating and of the drain in a note I had occasion—or rather made—to send to Mrs. Lupton. Today she came back to it, you will recall, sir."

"I certainly do, Mr. Claypohl. Of course, this is a new house and there won't be many of those for some time to

come. Does the field of replacement, as they call it, offer as good opportunities for your specializing?"

"Considerably better, Mr. Raymore. With the new house, there is money to be spent for everything, and some folks lie down and refuse to budge from the specifications. I have had such cases, but when the house is already built, I find it comparatively easy to interest middle-aged folks in comforts, which will make the downhill road so much easier. Out on Delaware Avenue, I really must take you out for a spin over that!—there was a man—I'll not mention his name though—or rather because—it's a nationally known one, who has a fine, old house. You couldn't improve on it for general construction and layout, but in our line—well" and Mr. Claypohl threw up his hands in memory of its earlier condition.

"I worked at him for three years. These are long-drawn-out campaigns, Mr. Raymore! Then I got him for six bathrooms—it is a monster of a house!—besides lavatories in bedrooms, and a system of heating that is the best and completest in Buffalo, if not in all New York State. That is the largest job of the kind I have had, but some others haven't been so bad, either, for size or profit," and the master plumber smiled in memory.

"And the war will not make it any more difficult for you?" asked the manufacturer.

Claypohl smiled again: "Oh no! Easier, I should say. For you see as a people we are awake now to the importance of the next generations. We are virtually carrying on the war with those generations. We always, here in America have made much of our young people, and they are now paying us back by going over there and paying out their all. So our elderly people are now planning their houses, yes, their very lives, so as to repay those generations. I don't know, as I make myself clear, but you heard Mrs. Lupton about her grandchildren."

"You are perfectly clear to me, Mr. Claypohl, and it is a great idea! Whatever victories we win over there, they will be as nothing unless we have at the close of this war an ever increasingly efficient, and that means healthy, young element growing up to carry on the work, the foundations for which are being laid on the battlefields of Picardy, Flanders and Piedmont. That war, after the war, that struggle between one group of nations standing for decent commercial development, as against another standing for commercial development at any price, will be won by the group having the best prepared younger generations in the background. No wonder Mrs. Lupton and we all are interested in our grandchildren. In them lies our salvation, "our perpetuation as a nation!"

Mr. Claypohl was pleased: "You have stated it so much better than I have been able to put it! But for years past I have been figuring ahead for just such a time as this, a general disruption of the building lines, either from this or some other cause, and I have been specializing for it. Now come the National Associations of plumbers and manufacturers and grab the idea, but I hope to keep ahead just a little. If each of us doesn't do his bit, there won't be any all done, will there?"

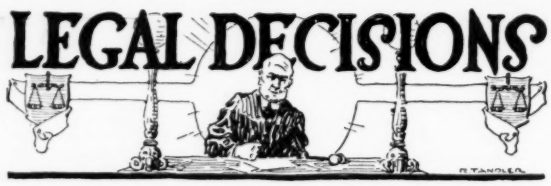
II.

And it was that story Nathaniel Raymore told that afternoon, closing with: "The mass movement can't amount to anything unless there is an individual movement on the part of each of us. Nothing will more quickly kill the splendid campaign outlined and decided upon at St. Louis than for each of us to sit still that we may see the others marching by us."

Precedent.

She (considering vacation): "I wonder who started this fad of going to the mountains, anyway?"

He: "Mohammed, I believe."—"Boston Transcript."



Held Liable for Removing Heating Plant.

The Court of Appeals of Alabama affirms a judgment for damages for trespass and conversion against a plumbing, heating and electric company, and in favor of a holder of two mortgages on the premises from which the company removed a steam heating plant. The court says, 77 Southern Reporter, 430, that the insistence of the company was that it had the right to remove the articles, by reason of the agreement it had with the mortgagor, who was the owner of the premises and at that time in possession, that the title should remain in the company until the amount due on the heating plant was paid. This contract was oral, but, being made with reference to personal property, was not offensive to the statute of frauds, and as between the mortgagor and the company was valid and binding.

By contract between the parties the status of the chattel as personal property was preserved, unless their subsequent conduct manifested an intention on their part to attach this property to the real estate as a permanent fixture, and if its status as personal property was not thus destroyed, there could be no doubt but that the company would have had the right to remove the property.

There was much evidence in this case tending to prove that it was the intention of the mortgagor that the heating plant should become a permanent fixture, and some evidence that the company had such intention at the time the work was done, as was evidenced by the filing of a statutory lien against the real estate to which the heating plant was attached, and it was not until long after the amount was due and unpaid, and the mortgages were in process of foreclosure, that the company undertook to repossess itself of the heating plant under the oral retention title contract. In addition to this, there was much evidence tending to show an actual annexation to the realty; application to the use or purpose to which that part of the realty with which it is connected is appropriated; the intention of the parties making the annexation to make a permanent accession to the freehold. When these three things concur, the chattel loses its character as personal property and becomes real estate.

Besides and in addition to the foregoing, the company by filing its lien on the property where the heating plant had been installed, recognized the title as being in the mortgagor, which precluded it from setting up title in itself. An election between inconsistent rights, having been once made, cannot be afterwards revoked.

Brookfield, Mo.—The Winkle Plumbing Co. is remodeling the heating system in the Commercial Hotel at Linneus, Mo.

Grand Rapids, Mich.—The Weatherly Co. has secured the contract for the installation of a new heating system in the Haskins Building.

Louisville, Ky.—F. A. Clegg & Co., of this city, have just been awarded another contract on the powder plant at Nashville, Tenn., calling for $13,000 worth of pipe coils. This is the concern's second contract on this plant. The Clegg Co. has also been awarded the contract for the installation of a modern heating system in the Women's Club Building in this city.

MAKING "SERVICE" *a* BUSINESS-PULLING POWER

How a Michigan Plumbing and Heating Contractor Secured Business by Offering "Service" Instead of Lower Prices

By J. S. Vogel

PRACTICALLY every plumbing and heating contractor in the country has more or less competition, and when making bids for installing plumbing, etc., the price is usually governed by the competition that must be overcome. Because competition is so keen, prices are often slashed to such an extent that there is little profit left for the master plumber and steamfitter who has taken a job purely on a price basis.

A Michigan plumbing and heating contractor, whose business is on the outskirts of a city of a little over 100,000, has had quite a number of these jobs that leave very little profit,—and to put his business on a better paying basis, he decided to let his competitors underbid each other, while he made a special effort to find business that was not to be governed on price alone.

After trying out various methods, he finally found one that accomplished the desired results. To begin with, he had 5,000 small dodgers printed and distributed in the territory from which he expected to get the largest volume of his business.

On these small dodgers he talked service, instead of price. He offered to inspect any heating or plumbing installation free of charge and suggest ways and means to make the heating plant or plumbing give better service than it was now doing. In the fall of the year he offered to inspect every heating plant and every item of plumbing in the home, and he offered to do this free of charge. After making an inspection, he always suggested the necessary repairs, the installation of new piping, the covering of piping, or a new grate in the boiler, according to the conditions by which he was confronted. In his advertising he said: "Don't wait for a leak in your plumbing; better let us inspect your plumbing before it has a chance to give out; let us tell what is necessary to make the plumbing in your home give better service, and let us inspect your heating plant and plumbing at least twice a year. If your plumbing needs repairing, you will save money by having it done before you are forced to call in a plumber in a hurry on some cold morning. We charge absolutely nothing for making investigations, but if repairs are necessary, we tell you how to have them made at the least possible expense and in the most thorough manner. Our prices are reasonable, all our work is guaranteed, and our service is not to be beaten anywhere."

A new dodger was distributed in the same territory every other week for three months, and at the end of that time practically every one within two miles of the place of business of this master plumber, knew about him, about his service, his work and his guarantee.

These dodgers brought considerable business, especially overhauling of heating plants in the fall of the year. When asked to figure on a job on a competitive basis, he always made the customer understand that his figure would very likely be a little higher than that of some other master plumber, but he qualified his statements by saying that he never undertook a piece of work on price alone, because any one who got his work by underbidding, was usually forced to skimp his work in order not to lose money on the job.

This explanation carried conviction of high-class, guaranteed work. In many instances it brought him jobs on which his figures were considerably higher than those of competitors.

After once doing work for a customer, he made it a point to keep in touch with the customer. If he overhauled a heating plant or made repairs in the fall of the year, he would go back the next spring and ask what sort of service his work had given. This proved to the customer that he had taken a greater interest in his work than the mere money he received for it. It paved the way for additional business of one kind or another. In many homes he now examines the heating system every summer, and while doing this, he is usually able to suggest some manner of work, or some new specialty to install in the home that will be for the convenience of the housewife, if not for the entire family.

To still further impress his customers that he is doing everything possible to give the maximum service, he furnishes every one of his employes with a pair of slippers to be worn while doing work in the home of a customer. This eliminates the objection of the plumber walking all through the home with dirty shoes, especially during the winter months when ordinarily the plumber would leave foot marks from wet shoes on the floor of practically every room into which his work required him to go.

This plumbing and heating contractor has built up a business of such volume that would have been impossible had he not made "service" his business slogan. He is making more profit, and he has more well-to-do customers than ever before, and he is enabled to make charges that leave him a handsome profit on every piece of work. His business is growing all the time and his customers are constantly sending him new trade, new customers.

Late News from Montana.

Collins Plumbing & Heating Co., Great Falls, recently received the contract for the installation of a modern heating system in the Longfellow Building. The contract amounts to $3,650.

The city of Bozeman is being enlarged at the present time by the addition of more than half a million dollars' worth of buildings. Included in the above figures are numerous residences. A large number of additional homes are also being planned.

The DAY BOOK *of the* BON TON DE LUX PLUMBING & HEATING CO.

Jerry Dolan's Record of the Interesting Happenings of the Day

(Continued from Page 283 in the August 24th Issue.)

August 23, 1918.

The salesmen report that all is quiet along the Mississippi.

August 24, 1918.

Business N. G. Hank went fishing this morning.

August 25, 1918.

Sunday.

August 26, 1918.

One of our customers owns a four-flat building, and he called up last Saturday to say that two of the hot water tanks were leaking, and he wanted us to look them over and see what could be done, so this morning Hank went over and he found that this man had been trying to putty the holes to make them tight. He wanted to know what was the best way to fix them and Hank told him to pull 'em out and sell 'em for junk and install a couple of new tanks of standard make. Well, that didn't listen very good, because it would cost money, and so he tells Hank that he had the crank case of his auto welded, and he don't see any good reason why he can't have the tanks welded. Hank told him that they could be welded and they might be all right, but it was a chance he would have to take for himself, and so he ordered Hank to disconnect the tanks and plug the supplies, and he took the tank over to some welding concern to have it welded.

August 27, 1918.

This morning Hank went over and installed the tank that had been welded, and when they turned on the water, it leaked at the rivets and the seam, just like Hank told him it would, and so he bought two new tanks and Hank connected them up. The owner says that he has no kick, anyhow, because if he hadn't tried welding, he would never have been satisfied that it couldn't be done, and as it is now, he feels that he spent a couple of dollars making the experiment and it failed, and now he knows that the plumber told the truth.

August 28, 1918.

Old Man Flannigan has the right idea. He owns a couple of power driven pipe machines, and every piece of pipe in his shop now has two good threads on it, and all of the pieces are sorted and grouped according to size and length. He says that it is a time saver and a money maker. Of course, there are lots of shops that haven't any power machines, but they have a lot of short pieces of pipe on hand, and it would be a good stunt for them to make a deal with some shop, that has a machine, to thread a few hundred pieces. It would be a conservation movement that Uncle Sam would appreciate now that steel is so scarce; it would conserve labor because power threading is cheaper and quicker than man power, and it would be a money maker for the master plumber.

August 29, 1918.

I struck a funny one today. A woman 'phoned in to say that the water was running out of the chimney, and she was so certain about it and at the same time so worried that I induced one of the supply house salesmen to tend the office for a few minutes, while I ran up there to see what she had been drinking, but she had the right dope all right. Her house was a duplex and the water was coming out of the cleanout in the bottom of the chimney in the basement. It wasn't raining, so we knew that it couldn't be the fault of the chimney, and so I took a look at the sink on the first floor, and it was close to the chimney with a vented "S" trap underneath. The connections were pretty solid but I disconnected the union on the vent end and pried the flange away from the wall and, so help me goodness, some plumber had run the vent into the chimney flue and left it there. The second floor sink was connected in the same way. I told the lady what was needed, and it looks like a couple of days' work, putting in a vent line and connections, and if that plumber gets what he has coming, we will be shy one competitor.

August 30, 1918.

The lady also told us that she still owed the plumber, that had done the job, about Fifty Dollars, and she couldn't understand why he would do anything like that, because he had been so well recommended by a very dear friend. Well, it's bad enough to trim a customer that just happens into your joint, but a plumber that will trim a customer that has been sent him by a mutual friend, is a disgrace to the profession and should be weeded out and put to work with a pick and shovel in a chain gang.

(To be Continued.)

Convention Dates

September 18 and 19, 1918.—The fall meeting of the National Association of Brass Manufacturers, in Cleveland, Ohio.

October 14 and 15, 1918.—The annual meeting of the American Society of Sanitary Engineering, at Chicago, with headquarters at the Congress Hotel.

October 14 to 17, 1918.—The annual convention of the American Public Health Association, at Chicago.

October 16, 1918.—The fall meeting of the Central Supply Association, in Chicago.

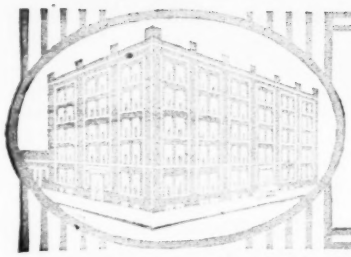
"METAL GHOULS" IN GERMANY.

"Metal ghouls" have become common in Germany. Graves are pillaged for precious metals. Lead is stripped from coffins. Jewelry is ripped from bodies. Seriousness of German metal shortage has brought about these precarious pursuits.

Shortage of metal is shown by conditions of villages recaptured by the British. Vaults in the cemetery at Mesieres have been broken into and lead stripped from coffins. Prisoners admit taking jewelry from the bodies. At Caix a dump several kilometers in extent was found full of material including lead stripped from houses. The Germans have nightly been bombing this dump in attemps to destroy the material.

Demoralization marking the Germans' retreat is shown in the chaos they leave behind. Batteries are abandoned. Maps, charts and important papers are scattered here and there. Even boots and other personal effects are abandoned.

When one of our soldier or sailor boys makes the supreme sacrifice we say he died doing his duty. When one of us over here buys an interest-bearing Government security we want to be called a patriot. Let's buy War Savings Stamps to help our country and not to be glorified.



Among the Wholesalers and Manufacturers

COMPANIES RECENTLY INCORPORATED.

The Acme Ventilator Corporation, of Lynn, Mass., has been incorporated with a capital of $100,000 to manufacture ventilating systems. The officers of the corporation are: John H. Devine, president; Francis G. Hay, treasurer, and Fred Hertach, secretary.

The Blue Flame Safety Heating Co., of Boston, Mass., has been incorporated with a capital of $50,000, to manufacture heating specialties. The incorporators are: P. L McBride, John H. Johnson and O. B. Johnson.

The Ohio Heating & Pipe Bending Co., of Cleveland, O., has been incorporated with a capital of $100,000, to manufacture heating specialties. The officers of the company are: P. J. Schomers, president; P. M. Shand, vice-president, and B. Waller Neyhard, secretary and treasurer.

TRADE EXTENSION COMMITTEE TO MEET IN CHICAGO ON SEPTEMER 5TH.

The Trade Extension Committee, representing the manufacturers, jobbers and contractors in the plumbing and heating industry, will hold a special meeting and conference at the Auditorium Hotel, Chicago, on Thursday, September 5th, at 10 a. m. The report and recommendations of the Publicity Committee, together with that of the Finance Committee of the organization will be heard, as well as the reports of special delegates appointed by each of the affiliated organizations of the Trade Extension Committee. These latter reports will treat on the future policy to be pursued by the Committee.

THE SEPTEMBER TOURNAMENT OF THE WESTERN TRADE GOLF ASSOCIATION.

Captain Paul Blatchford, of Chicago, has just announced that the Western Trade Golf Association will hold its next regular tournament at the Edgewater Golf Club, on Tuesday, September 10th, the members on this occasion to be the guests of H. E. Keeler. This tournament will be held in competition with the Eastern Trade Golf Association and Captain Blatchford is, for this reason, desirous of having every member present.

NEW INDUSTRIAL PREFERENCE LIST.

A new preference list for the distribution of materials, labor, and other resources is being worked out by the War Industries Board and probably will be issued within the immediate future, Chairman Baruch announced this week. The list will embrace approximately twice as many preferred consumers as that now in effect. According to Chairman Baruch's outline of the new list, preference will be granted by the Government on five fundamentals: Coal, transportation, labor, material and finance, these items to form the basis of the list because of their importance to the country's war program. It also is expected that the War Department's "work or fight" order will be carried out on the basis of the board's regulation.

OPENS WAREHOUSE IN CLEVELAND, O.

The John Wood Manufacturing Co., of Conshohocken, Pa., has just opened a new warehouse at 1922 Scranton Road, Cleveland, O., under the management of Jos. F. Montague.

ENLARGING SEWAGE PLANTS AT THE ARMY CANTONMENTS.

The War Department authorizes the publication of the following:

The increased number of troops in camps and cantonments has made necessary the enlarging of the sewage disposal plants. Instructions have been given to the Construction Division of the Army to start the work at once. The average cost at each camp will be $40,000.

A committee of sanitary engineers from the Construction Division and the Sanitary Engineering Section of the surgeon general's office inspected the plants and reported that to properly safeguard the health of the troops and the civilian population enlargements and alterations of the present plants must be made.

Measures are being taken to correct the most pressing defects while the work of enlarging the plants is being done.

H. MUELLER MFG. CO.'S ANNUAL OUTING.

The annual outing of the H. Mueller Mfg. Co., of Decatur, Ill., was held at Fairview Park, near that city, on Saturday, August 17th. About 700 people, employes, their families and friends, met at the factory at 9 o'clock in the morning and marched to Lincoln Square, where they boarded cars for the park. Leading the procession was a platoon of the reserve militia, followed by a squad carrying the flags of the allied nations. The third feature was "The Spirit of '76," and after this came the officers of the company and the "Twenty Year Men." Thirty-two young women employes formed the next section, marching in rectangular formation and carrying an American flag. The remainder of the line was made up of men employes, the Mueller Band and Drum corps.

Thrift stamps were awarded the winners of the contests, all of which were held in the morning with the exception of the two ball games.

The Mueller Band gave a concert both in the morning and afternoon, which feature was enjoyed by all.

Adolph Mueller, president of the company, was the speaker of the day. In a fine patriotic address he mentioned the fact that his company and its employes have subscribed for Liberty Bonds, Victory Bonds, Red Cross, Y. M. C. A. and K. C. work, $287,000. He also dwelt on the excellent showing made by the men of foreign birth, connected with his company, in the matter of subscribing for Liberty Bonds. Referring to this he said:

"We have fifty-three such men in our organization, but not one alien. They are either naturalized American citizens or have declared their intentions of becoming such. Their subscriptions for Liberty Bonds amount to $6,600. This action on their part not only reflects most creditably upon them, but it is a record of which we all feel proud. It is doubtful if there is another place in the United States where a factory employing men of foreign birth can show a 100 per cent record in the matter of subscriptions of this character. Many of these men have also subscribed to the Red Cross and other allied societies doing war relief work.

"Fifty-four employes of the H. Mueller Mfg. Co.'s Decatur factory and fourteen of our New York and Port Huron employes are now serving our country. Seventy-eight employes of the H. Mueller Mfg. Co. Ltd. are in the Canadian army—a total of 146 from our different companies are now serving in the Allied army doing all in their power to make the world safe for democracy. Three of our Canadian employes have lost their lives while in active service."

At the close of his address six new members of the Mueller Twenty-Year Club, August Schudziara, E. J. Dodwell, G. Golembeck, C. S. Winegardner, August Kusch and Chris Hendrian, were presented with $500 checks in recognition of their faithful service, and the entire number, 24, received handsome gold pins.

The athletic features of the afternoon were the two ball games. The first was played by the "Bloomer Girls," a new organization made up of the women employes, and was won by Miss Notie Wright's team. The second game was won by George Troxell's team.

Another big feature was the Patriotic Minstrel Show given by the employes under the direction of Alex Van Praag. This was given on a platform in the south side of the park, and fully 3,000 people crowded the hillside. It was arranged to repeat the performance for the benefit of the Red Cross.

Refreshments were served free to employes and members of their families.

Most of the picnickers remained for the evening and enjoyed the dancing and moving pictures.

The outing was one of the largest that the company has ever held, it being estimated that there were 5,000 people present.

The committee in charge of the general arrangements consisted of the following gentlemen: Philip Mueller, Robert Mueller, Fred B. Mueller, Adolph Mueller, Frank Cruikshank and Merle Cobb.

LIMITATIONS UPON STORAGE OF BITUMINOUS COAL BY INDUSTRIAL PLANTS.

The tremendously increasing demand for coal for special war purposes in the eastern part of the country, particularly for the navy and transport service is making it necessary to draw more heavily on the eastern coal fields than was originally contemplated.

In order to decide how best to secure this coal for these purposes with the least disturbance of the coal supply moving to other industries, a meeting of all state fuel administrators east of the Mississippi and also of the states of Minnesota, North Dakota and South Dakota was held in Washington on Tuesday, August 20th.

At this meeting it was decided that to accomplish the desired result it would be necessary to limit the amount of coal storage that industrial plants would be allowed to accumulate and to carry on hand and to fix a uniform amount for each state.

United States Fuel Administrator Garfield announced the basic policy of the fuel administration as to storage as follows:

"Coal in excess of that required for current operations shall be delivered to plants not on the preference list of the War Industries Board only when it is not in demand for use before April 1, 1919, by consumers on said list, namely, railroads, the federal government, states, counties, public utilities, retail dealers, or manufacturing plants on the preference list.

"In carrying out this policy, allowance shall be made for differences in distance from the mines and for differences in transportation conditions which may require more or less storage at the beginning of winter to insure uninterrupted operation until the following spring."

The following report, framed by a committee of state fuel administrators aided by officials of the administration, was adopted by the conference, and concurred in by Dr. Garfield:

"The maximum limits of storage indicated for the several states or parts of states defined hereafter are as follows:

Maximum Number Days Storage Bituminous Coal Allowed Until Further Notice.

	STEAM COAL			BY-PRODUCT AND GAS COAL		
	Public Utilities	Preferred Industries	Non-Preferred Industries	By-Product and Gas Plants	Preferred Industries	Non-Preferred Industries
Maine	120	90	30	120	90	0
Mass., Vt., N. H., Northern N. Y.	90	60	30	90	60	0
Conn., R. I.	75	45	20	75	45	0
Southern N. Y., N. J., Del., Eastern Pa.	30	30	15	45	30	0
Md., D. C., Va., N. C., S. C., Ga., Fla., Western Ohio	30	30	15	45	30	0
Western Pa., W. Va., Eastern Ky., Eastern Ohio	30	20	15	45	30	0
Lower Michigan	90	45	20	60	60	0
Ill., Ind., Mo.	....	....	....	60	60	0
Wis., Minn., N. D., S. D., Upper Michigan	....	....	....	90	90	0

"It is understood that these limits are mandatory and each fuel administrator is expected to see that the different classes of consumers are not allowed to exceed these limits. At the same time, it is understood that particular cases may require special treatment by a state fuel administrator, either by way of granting more stocks of coal than are indicated by these limits, or by restricting them to a less supply than indicated by these limits.

"Where a state administrator decides that the maximum limit should be exceeded in a special case for some special reason, he shall have authority to grant a revocable increase in writing for a specific added number of days. The administrator shall report each such specific case in writing immediately to the United States Fuel Administration at Washington, which may in writing disapprove the extension granted by him. Otherwise, it shall stand subject to action of the state fuel administrator.

"Any company or concern which is permitted under the zoning regulations now or hereafter in force, to obtain coal from Illinois, Indiana, western Kentucky, or from mines west of the Mississippi River may retain such reserve stock of coal as it shall have on the effective date hereof, on condition that such company or concern shall thereafter use screenings or mine run only, for its current necessities, and shall obtain such screenings or mine run for current use only from such last mentioned fields."

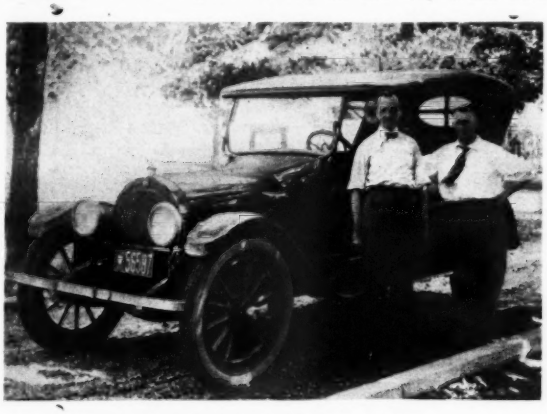
Contribute to the Red Cross fund.

Personal Mention

Henry B. Geddes, president and general manager of the Colwell-Ideal Corporation, of Detroit, Mich., has just returned from a business trip through the East and reports that he found business conditions favorable.

C. M. Hibbeler, advertising manager of the L. Wolff Mfg. Co., Chicago, has just left for a week's vacation in the country.

Russell D. Knight, of Philadelphia, eastern representative of the Knott Mfg. Co., of Tell City, Ind., has just spent a week in conference with Paul R. Bishop, manager of this company. Mr. Knight motored all the way from Philadelphia to Tell City and return. On the return trip Mr. and Mrs. Bishop accompanied him as far as Louisville, Ky. The accompanying photograph was taken at Tell City on this occasion.



Russell D. Knight and Paul R. Bishop.

James E. Degan, manager of the Detroit office of the Spencer Heater Co., of Scranton, Pa., and the Dole Valve Co., of Chicago, has just returned from a tour of his territory and reports business good.

B. Waldt, purchasing agent of the L. H. Kurtz Co., of Des Moines, Iowa, was a business visitor in Chicago this week.

E. H. Jones and C. E. Parks, secretary and treasurer, respectively, of the Kanawha Mfg. Co., of Charleston, W. Va., have arranged their railroad reservation for Chicago in order to be assured of a good seat at the Cub baseball series which begins on September 4th.

John M. Arnoldi, assistant to J. W. Story, manager of the Chicago office of the L. J. Mueller Furnace Co., Milwaukee, Wis., has left for Spartanburg, S. C., where he will enter one of Uncle Sam's training camps. Mr. Arnoldi has been attached to the Chicago office for the past eight years.

F. A. DeBoos, manager of the Kansas City, Mo., office of the Johnson Service Co., of Milwaukee, Wis., has recently been transferred to the selling organization of the Chicago office of the concern. Mr. DeBoos is devoting much time to the study of automatic temperature regulation in its relation to fuel conservation. He is preparing a paper on the subject which will be presented before the American Society of Heating and Ventilating Engineers. H. F. Willis, manager of the Des Moines, Iowa, office of the company has just resigned and entered the naval service of the nation.

E. W. Fisher, special Chicago representative of the Wheeling Sanitary Mfg. Co., of Wheeling, W. Va., is finishing the last lap of a two weeks' vacation in Ohio.

TRADE LITERATURE.

"The Friction of Water in Pipes and Fittings," by F. E. Giesecke, head of the Division of Engineering, University of Texas, is the title of a 42-page bulletin, which has just been issued by the University of Texas, Austin, Tex. This bulletin describes in detail a series of experiments made at that university to determine the friction of water in pipes and fittings with particular reference to the application of the developed data to the design of hot water heating systems. The experiments described in this bulletin show that the friction of water decreases as the temperature of the water increases, and that, for ordinary ranges of temperature, the friction of water in one foot of new and clean black pipe is

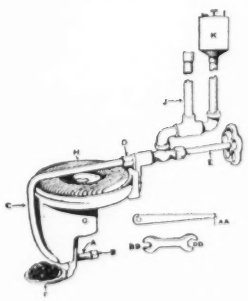
$$\frac{.01533 \quad v^{1.77}}{t^{.19} \quad d^{1.275}}$$

ft. of water of the same temperature as that flowing through the pipe; **t** being the temperature of the water in Fahrenheit degrees, **v** the velocity of the water in ft. per second, and d the internal diameter of the pipe in inches. The experiments also show that the relation between the friction in short radius and that in long radius elbows is quite variable; that the friction due to unreamed ends is relatively much greater in small pipes than in large pipes, and other interesting data.

The Casey-Hedges Co., of Chattanooga, Tenn., has just issued its Catalog No. 6, illustrating and describing in detail its products, including soil pipe and fittings, sanitary fountains for parks, heating and power boilers, etc. The catalog consists of 212 pages, 8 by 11 inches in size, and it is an attractive sample of the printer's art, only highly glazed paper and high-grade cuts being used in its production.

A NEW KEROSENE WATER HEATER BURNER.

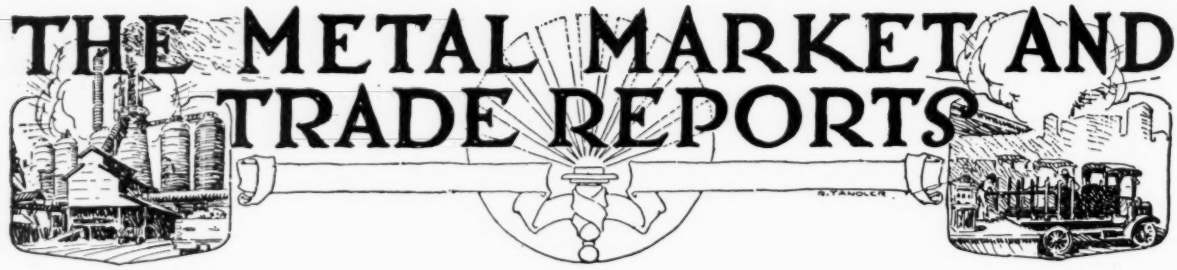
The accompanying illustration shows the construction of a new kerosene burner for water heaters, which has just been placed on the market by the Hotstream Heater Co., of Cleveland, O., in connection with this company's kerosene water heater. This burner is described as being wickless, generating its own gas and throwing a blue flame. The manufacturers also state that it will run over twelve hours on a gallon of fuel and that a thorough mixture of vapor and air before ignition permits perfect combustion. Its construction is such that it can easily be removed and replaced by a gas burner.



A Strange World.

Harassed Decorator: "I'm very sorry, mum, I 'aven't been able to paper your two top bed rooms. They took away my last man a week ago for the army. Seems to me they think more of this 'ere war than they do of paper 'anging."—"Punch."

THE METAL MARKET AND TRADE REPORTS



Steel and Iron.

The steel situation is causing much concern to many consuming industries, who are basing their claims for supply on the fact that their products are essential to public utility, but, no matter how essential an article may be in peace times, the situation now is entirely different. There is only one thing at present that is considered necessary, and that is war products for the Government and the Allies. At the present time the amount of steel available for industries does not amount to one per cent of the output. The situation has become so acute that to make the supply cover all those things, which the army and navy need, it has been found necessary to curtail distribution even for shipbuilding and the manufacture of munitions. It is estimated that 23,600,000 tons are needed, while the maximum output is placed at about 17,000,000 tons, which makes the problem serious.

Pig iron is also short and the business for iron not actually allocated by the Government is of little account. Inquiries and requests for iron come to the committee in a steady stream, and it is necessary to adhere strictly to the rigid rules for distribution prescribed by the War Industries Board. Consumers have endeavored to cover their wants for 1919, but furnaces are not anxious to book so far ahead. As matters stand now, the contracts now held by the consumer are of no certain value, as the Government, through priority orders, has virtually nullified the contracts and taken full charge of distribution. The furnaces are all behind with their orders with no possible way open, as things are, to catch up. Production has improved slightly, but demand is constantly increasing. Prices are based upon the old standard grades of No. 2 foundry at $33, and basic at $32 a ton, at the furnace, and will be operative until October 1st.

Copper.

There is no change in the copper situation, as the distribution continues to be confined to the Government or to consumers holding contracts for the Government. The supply is not over plentiful, and some close economy will be necessary to make the tonnage suffice. Outside business has been more or less restricted, but so far there has been enough for war purposes. The demand has more than kept pace with the supply so that there is no chance of any accumulation, but the Copper Producers' Committee has the situation well in hand and may be counted on to see that nation's wants are fully supplied. The price remains at 26 cents a pound, for carload lots, and 27.80 cents for lesser amounts, and will be effective until November 1st.

Tin.

The tin market was unusually dull last week. All selling offers have been declined and prices weakened for want of support. The control of distribution has passed into the hands of the Government through its accredited agents, the American Iron and Steel Institute, and all speculative influences have been eliminated. Consumers who have essential work on hand will have ample protection, and there are few who cannot claim preference. Buyers expect a fixed Government price in the near future which may bring the price at a lower level than at present. Straits, for August and October shipment from Singapore, was quoted at the close of the week at 79 cents, subject to permit, English tin, prompt shipment from London, was offered at 83 cents. Banka, on spot, could be bought at 84 cents.

Lead.

The price of lead remains, as fixed some weeks ago, at 8.05 cents for New York, and 7.75 cents, East St. Louis, although there have been some buyers, who needed nearby delivery, who have been outbidding each other in their efforts to be supplied. Producers claim that they have no lead now and will not have any for delivery before October. Consumers are applying to the Lead Committee for assistance and are assured they will be taken care of as soon as possible, in order of importance.

Spelter.

At the conference at Washington, it was agreed that the price of Grade A spelter will continue as at present until January 1st. The supply of Grade A which has been taken over almost, if not, entirely, by the Government, is ample for all requirements, while the standard, or prime Western grade, is growing scarce and the price is advancing. Nearby spelter is quoted in New York at 9.37½ cents to 9.75 cents. At East St. Louis, all positions are quoted at 8.90 cents to 9⅛ cents.

Other Metals.

Quotations on other metals in New York are as follows:

Aluminum (in 100-pounds lots)	49 cents per lb.
Antimony, Chinese and Japanese	17 cents per lb.
Solder No. 1	65 cents per lb.

New York Old Metal Market.

The following prices are current for old metals:

	Buying.	Selling.
Copper, heavy	24 cents	25 cents
Copper, light	20 to 21 cents	23 cents
Brass, heavy	14 to 14½ cents	15¾ cents
Brass, light	12 to 12½ cents	13½ cents
Brass turnings	14 to 14¾ cents	15½ cents
Brass clippings	15½ to 16½ cents	17¼ cents
Tea lead	5¾ to 6¼ cents	7 cents
Aluminum clippings	30 to 32 cents	33 cents
Solder joints	14½ to 15 cents	16 cents
Lead, heavy	7 to 7¼ cents	7¾ cents
Cocks and faucets	18½ to 19 cents	20 cents
Mixed babbitt	8 to 8¾ cents	9½ cents

Chicago Old Metal Market.

Chicago wholesale dealers' prices are nominally as follows:

	Buying.	Selling.
Heavy yellow brass	15 to 15½ cents	16½ cents
Brass, light	11 to 11½ cents	13 cents
Brass, medium	12¼ to 12¾ cents	13¾ cents
Brass clippings	15½ to 16 cents	17 cents

Red brass	21½ to 22 cents	23 cents
Cocks and faucets	17 to 18 cents	19 cents
Copper, heavy	23 to 23½ cents	24½ cents
Lead, heavy	6¾ to 7 cents	7½ cents
Tea lead	5¾ to 6 cents	6½ cents
Solder joints	15¼ to 15¾ cents	16½ cents
Old iron pipe, per ton	$34.00	$25.00

The Pipe Market.

No changes have been announced in the pipe market during the last weeks.

Quotations on less than car lots of full weight steel pipe remain as follows:

	Butt Weld.		Lap Weld.	
	Blk.	Galv.	Blk.	Galv.
⅛ to ⅜ inch	38	10	....	....
½ inch	42	26	....	....
¾ to 3 inch	45	30	....	....
2 inch	....	....	38	24
2½ to 6 inch	....	....	41	27
7 to 12 inch	....	....	38	23
12 to 14 inch	....	....	28½	....
15 inch	....	....	26	....

The quotations apply to all shipments from stock, regardless of quantity.

On extra strong and double extra strong steel pipe in less than car lots, quotations are as follows:

	Extra Strong				Double Extra Strong			
	Plain Ends		Plain Ends		Plain Ends		Pl'n Ends	
	Butt Weld		Lap Weld		Butt Weld		Lap Weld	
	Blk.	Galv.	Blk.	Galv.	Blk.	Galv.	Blk.	Galv.
⅛, ¼ and ⅜ inch	29	9	....	....	....	....	....	....
½ inch	34	14	....	....	25	5	....	....
¾ to 1½ inch	38	18	....	....	28	8	....	....
2 to 2½ inch	39	19	....	....	30	10	....	....
3 inch	39	19	....	....	....	....	....	....
2 inch	....	....	31	12	....	....	23	4
2½ to 4 inch	....	....	34	15	....	....	25	6
4½ to 6 inch	....	....	33	14	....	....	24	5
7 to 8 inch	....	....	29	10	....	....	19	List
9 to 12 inch	....	....	24	5	....	....	....	....

With threads only, the basing discount is 1 and 1½ points lower. With threads and coupling the basing discount is 3 points lower. The quotations apply to all quantities less than car lots.

Quotations on full weight genuine iron pipe, in less than car lots, are as follows:

	Butt Weld.		Lap Weld.	
	Blk.	Galv.	Blk.	Galv.
⅛ and ¼ inch	16	+13	....	....
⅜ inch	17	+12	....	....
½ inch	21	1	....	....
¾ and 1 inch	26	8	....	....
1¼ inch	26	8	11	+6
1½ inch	26	8	18	2
2 inch	....	....	19	3
2½ to 6 inch	....	....	21	6
7 to 12 inch	....	....	18	3

These quotations are f. o. b. Pittsburgh, and apply to all shipments from stock, regardless of quantity.

On extra strong and double extra strong genuine wrought iron pipe, with plain ends and in less than car lots, the quotations are as follows:

	Extra Strong				Double Extra Strong			
	Butt Weld		Lap Weld		Butt Weld		Lap Weld	
	Blk.	Galv.	Blk.	Galv.	Blk.	Galv.	Blk.	Galv.
⅛ to ⅜ inch	11	+9	....	....	....	....	....	....
½ inch	16	+4	....	....	3	+17	....	....
¾ and 1 inch	22	2	....	....	8	+12	....	....
1¼ inch	22	2	8	+12	8	+12	....	....
1½ inch	22	2	14	+6	8	+12	3	+16
2 inch	....	....	16	+4	....	....	3	+16
2½ to 4 inch	....	....	18	+2	....	....	5	+14
4½ to 6 inch	....	....	17	+3	....	....	....	....
7 to 8 inch	....	....	9	+11	....	....	....	....
9 to 12 inch	....	....	4	+16	....	....	....	....

These retail prices are f. o. b. Pittsburgh, and apply to all quantities except in car lots. With threads only, the basing discount is 1½ points lower. With threads and couplings, the basing discount is 3 points lower.

To ascertain the price in any city, deduct the proper freight rate from Pittsburgh to that city. To illustrate: ¾ to 3-inch steel pipe, black, is 45 per cent off, Pittsburgh. The freight to Chicago is 39 cents, or it would be 45 per cent minus .039, or .411 per cent Chicago for 10 cents a hundred freight you should deduct one point.

CONFERENCE ON PLANS TO INCREASE OUTPUT OF STEEL TO MEET GOVERNMENT NEEDS.

The War Industries Board authorizes the following information:

At a meeting of the War Industries Board, presided over by Bernard M. Baruch, the chairman, and attended by Dr. Harry A. Garfield, the fuel administrator; Carl Gray, representing the railroad administration; Felix Frankfurter, representing the Department of Labor; the War Service Committee of the Iron and Steel Institute, and other steel manufacturers and Government officials, the whole question of the Government's steel requirements was taken under review with a view to meeting every ounce of the actual demand, if that be possible.

The steel manufacturers were under the presidency of James A. Farrell, of the United States Steel Corporation, and included E. G. Grace, of the Bethlehem Steel Corporation; A. C. Dinkey, of the Midvale Steel & Ordnance Co.; John A. Topping, of the Republic Iron & Steel Co., and others.

The largest of the Government's steel requirements is that of the railroads; next, that of shipbuilders; third, the War Department; and fourth, the navy. The question of supplying these demands in such fashion that there need be no curtailment of the actual war requirements for steel was put squarely before the manufacturers and all others concerned in any way with steel production.

To accomplish this it was decided that there must be:

First, greater conversion of mills to the production of steel that is required in the war program.

Second, an increase in the coal supply, particularly by-products coal, available for mills engaged on Government work.

Third, shutting off further steel shipments to industries other than those engaged in meeting war needs.

Fourth, more rigorous conservation in the handling of steel in the mills.

The steel men in the meeting promised to co-operate to their utmost in meeting the Government's steel requirements and virtually pledged themselves to so increase their output as to guarantee the needs of the war program.

Even the bath tub is doing its part to help win the war. The Rev. Thomas C. Campbell, pastor of a church in the Jamaica Plain section of Boston, who is now with the American Red Cross in England, in a recent letter told of the treatment lately developed for soldiers suffering from burns from liquids and chemicals, which cling to the ground and get into the clothes of the men. "One of the most remarkable cures I know," he wrote, "is the water cure. I visited a boy who has been living in water from his waist down for four weeks. His body was severely burned by liquid and the wounds had become infected. But within a few hours after he was in his bath of water, which was kept at the temperature of his body, he had no pain. He was lying in a sort of hammock suspended in a large bath tub. He slept in this bath quite comfortably and his wounds were healing remarkably well."

AMONG THE PLUMBING AND HEATING CONTRACTORS

Illinois

Chicago and Vicinity.

The Baker & Smith Co., of 408 Wells Street, has recently been awarded the contract for the installation of the heating system in a cold storage and packing plant, to be erected at a cost of $2,500,000, at Thirty-ninth Street and Seeley Avenue.

L. W. Hudon, of 2638 West Thirty-eighth Street, will install the plumbing in a two-family building, to be erected at 2458 West Forty-sixth Street.

H. P. Reger & Co., of 5514 Lake Park Avenue, have been awarded the contract for the installation of the plumbing system in an addition to a boiler house to be built, at a cost of $140,000, at Forty-second Street near Loomis Street. This firm also has the contract to install the plumbing in a storage building, to be erected at a cost of $180,000, at 4303-09 Ashland Avenue.

The Roberts Plumbing Co., of 4544 North Western Avenue, has secured the contract for installing plumbing and heating systems in a new factory at Fifty-seventh Avenue and Fillmore Street.

Nilson Bros., of 3222 North Halsted Street, have been awarded the contract for the installation of modern plumbing in a new $20,000 factory at 900 South Wabash Avenue.

William A. Davidson, of 166 West Van Buren Street, has been awarded the contract to install the plumbing system in a $50,000 addition to a factory at 1605 Western Avenue.

The Mortimer & Ryan Co., of 4308 Cottage Grove Avenue, will install the plumbing in an express building to be erected, at a cost of $35,000, at 1425 Indiana Avenue. The Mehring & Hanson Co., of 118 North Franklin Street, will install the heating system.

John Kleker, of 1707 West Forty-seventh Street, has been awarded the contract to install plumbing in a new store and flat building at 5300 Talman Avenue.

E. C. Oakes, of 3634 Fullerton Avenue, will install the plumbing in four new residences at 6022, 6023, 6028 and 6029 Dakin Street.

E. Stevenson & Co., of 6142 South Western Avenue, have secured the contract to install modern plumbing in a new bungalow at 5834 South Artesian Avenue. This firm also has the contract to install the plumbing in a new cottage at 6240 South Albany Avenue.

Charles C. Breyer, of 1545 West Division Street, has been awarded the contract to install modern plumbing in a new $30,000 factory at 310 North Ada Street.

Kostlevy & Co., 814 West Eighteenth Street, will install the plumbing in a new residence at 2609 South St. Louis Avenue.

Other Cities in the State.

Oscar Hvarven, of Galesburg, has been awarded the contract for the installation of heating and plumbing systems in a building, comprising show rooms and a public garage, which is to be erected at a cost of $50,000 in that city.

W. A. Jones, of Lincoln, will install plumbing and heating systems in a $40,000 residence, which is soon to be built in that city.

Edward J. Maag, of 414 Illinois Avenue, East St. Louis, has secured the contract for installing plumbing and heating systems in an oil storage, and store building, to be erected at a cost of $20,000, in that city.

New York

Utica Master Plumbers' Annual Outing.

The Master Plumbers' Association, of Utica, N. Y., held its annual outing at Lewis Point, N. Y., on Thursday, August 15th, with an exceptionally large attendance, every member with his family being present as were also many representatives of the supply fraternity. The large party was conveyed to the picnic grounds by automobiles. The leading features of the event were a chicken and fish dinner, a base ball game, several races and contests. Among the out-of-

Officers of the Utica Master Plumbers' Association:—Vice-President F. King, Secretary Charles J. Breen, President John Shaughnessy and Treasurer Charles J. Barber.

At Utica Master Plumbers' Outing:—Herman J. Brandeles and Angelo de Rosa, Outing Committee; William Smith and John J. Droz, Plumbing Inspectors in Utica.

town guests who honored the association with their presence were Geo. H. Drake and August Ebke, both of Buffalo, president and secretary, respectively, of the New York State Association of Master Plumbers.

Thomas J. Breen, of Utica (the Only Soldier at the Outing); Mr. and Mrs. August Ebke, and Mr. and Mrs. Geo. H. Drake, all of Buffalo.

Massachusetts

Massachusetts Master Plumbers' Annual Outing.

If the fellow who composed that little ditty, "Where are you going, my pretty maid," etc., had only lived in Webster, Mass., and had placed the destination of the pretty milk maid on the shores of the beautiful lake just east of the town, almost bordering on the Connecticut line, he might have made a rhyme, which would have helped the members of the Massachusetts Association of Master Plumbers to tell their spouses or their sweethearts where the annual outing on August 21st was held.

We will tell them. It was held at Lake Chargoggagoggmanchauggagoggangamaugg. Now they may tell their husbands that they know where it was held. "You went to Lake Chargoggagoggmanchauggagoggagangamaugg," they can say. It is surprising how easily you can say it when you try. Just sneeze, strangle, choke, say "man," sneeze, choke and strangle again, make a noise like one of the big guns when they fire them at the front, and then imitate the echo. Now you have the real Indian pronunciation of the lake. It's some name. Isn't it?

That is what Massachusetts master plumbers thought, so when they chugged along the state road looking for the little side road, which would lead to Point Breeze at the southerly end of the lake, they didn't ask where the lake was; they just asked where Point Breeze was. They knew they were getting warm, because the natives would smilingly reel off that name and then give directions. But the name of that lake wasn't once mentioned during the entire meeting of the association. Then there was another surprise for the plumbers when they reached Point Breeze. They found that it was named Point Breeze because there was no breeze there.

After a trip through one of the most beautiful sections of the state, the members didn't mind the few handicaps mentioned, and soon they were engaged in the various sports of the popular pleasure resort. President Carroll, who had been doing missionary work among the plumbers in the western section of the state, accompanied by ex-President Perham, telephoned just about dinner time that his party was nine miles down the road with a blowout and no spare shoes or tubes. A couple of speed demons were rounded up and almost before the dust had subsided, they were seen returning with the president and his party.

Within a few minutes the dining hall was filled to capacity, and spare chairs had been drafted from the adjoining pavilion to seat the nearly 150 members and guests. That dinner will long be remembered. Starting off with clam chowder and blue fish and clam fritters, there followed a broiled half chicken, beans, potatoes, radishes, pickles; then a half of a broiled lobster, a salad and then clams baked in seaweed, dipped in drawn butter and fairly melting in one's mouth. Apple pie, ice cream and coffee, with ginger ale and other soft drinks completely satisfied the appetites of all. Each received a full portion of that satisfied feeling.

Out under the trees, on the side of a hill, the business meeting was held. A big dining table served to shield President Carroll from the questions hurled at him during the session. Secretary Trow and the trade press occupied chairs along the foot of the hill, while the members either had chairs or lounged in the cool grass. It was probably the most unusual and informal meeting place of any of the sessions of the association.

James S. Cassedy, of Cambridge, Mass., member of the National Association Board of Directors, in response to introductory remarks by President Carroll, told of the Bigger Business Trade Extension movement calling upon the members not to let their enthusiasm in the campaign lag. "We have been getting together for 35 years. We have been discussing the same things year after year. We have the same conditions now that we had then. We are just beginning to realize that there is something wrong with our methods. We have been hammering away to change things from the outside, when we should have been hammering away and improving conditions on the inside. We have blamed everybody but ourselves and all the time it has been ourselves who were to blame.

"With 20,000 master plumbers and only 35,000 journeymen in the country, we are beginning to realize that there is something wrong. We have got to so conduct our business that there shall be fewer master plumbers and more journeymen, and that instead of less than two journeymen to a master, there shall be 15 or 20. We have got to carry on our business by business methods, for only by real sound, economic business methods can we succeed Truth, honesty, fair dealing—they may not always be popular, but those who continue in the plumbing business will be the men that get those fundamentals into their heads at the outset.

"Business conditions must be revolutionized from the inside. We must have salesmen, we must have modern accounting and cost systems. We must go after business and not wait for it to come to us. This association of master plumbers must revolutionize its work. The plumbing business is for plumbers. The man who is selling us goods should not be a competitor. We must have salesmen of our own, who will bring us new business. The present is the time for us to start."

Edward P. Small, secretary of the A. E. Martell Co., of Keene, N. H., who introduced the standardized cost accounting system for the National Association of Master Steam and Hot Water Fitters at the recent Chicago convention, was called upon to give a talk on cost accounting.

"Cost accounting is a dry subject, but a mighty important one," he said. "You men are in the plumbing business to make a living, and most of you want to make

a little money in addition. The manufacturing or construction business that is run without a cost system is not apt to make much money.

"It doesn't seem reasonable to me that a concern can carry on a manufacturing or construction business and not make records of everything that is done, and yet expect to know where it stands. That is all cost accounting is. It is simply putting down everything you do and summarizing it so that the facts may readily be determined.

"The mere fact that you have a cost accounting system is not going to make money for you. The cost system is a discloser of symptoms, and the patient needs constant observation. It will show you where the leaks are, and it is then up to you to find a way to stop them. A cost accounting system, properly analyzed, will give you the means to stop the leaks. Unless a cost system is properly operated, it is worse than nothing, because the results obtained are not true, and are liable to be misleading.

"Consistency, order and method make system. If you want the benefits of what system will do, do it systematically. Cost accounting calls for the closest co-operation, from the highest official to the office boy. The highest official should have no privileges which affect the working of the system which the office boy does not have. The president or general manager should not be allowed to have one single item from stock without an order. Those in authority are most apt to do such things, and the result is—wrong cost.

"Where strict accounting is not kept mistakes are constantly being made, due to carelessness. Stock is thrown away or wasted. More is gotten out than is needed. If these things are later discovered, nobody knows who is to blame. With the installation of a cost accounting system, even those, who are skeptical of its benefits, will look each month for the returns, and production, contrary to the general belief that it will be retarded, will be greater.

"You say, 'My help will not co-operate, even though I see the benefits of this system.' It has been my experience that the paid employe, once he understands the motive for all this, will cooperate better than will the officers of the company. Your biggest problem will be with your own associates—not with your help.

"Old fashioned double-entry bookkeeping was an improvement on single entry, but not much. It told at the end of the year, after taking inventory, whether money had been made or lost; but why not know as you go along? Ordinary double entry bookkeeping does not tell you in what part of your business system a remedy should be applied.

"The aims of standardized accounting are

"1. To know what department of your business pays best, in order that that department may be pushed, or, if a department is unprofitable, loss may be eliminated either by eliminating the department entirely or finding out what is wrong.

"2. To simplify accounting and cost practice so that the facts will be easy of access and readily understood.

"3. To make cost keeping so fit in with the accounting practice that instead of selecting occasional jobs for cost keeping it will be necessary to keep costs on all transactions.

"4. To foster analysis of one's affairs and stimulate the feeling that an intelligent and fair profit on each transaction is better than a killing on one job to make up for losses on others.

"5. To provide a system that will grow with the business.

"6. To know what overhead is and how to analyze it; to know where the leaks are; where the money goes for the things that cannot be specifically charged to assets or costs.

"7. To unitize as well as standardize so that separate units of this scheme may be applied without the necessity of absorbing it all at once.

"If a uniform system is adopted by an association similar to your own Massachusetts association, or by a national association, groups of competitors will, in so far as basic accounting conditions are concerned, be talking a common language without the need of an interpreter."

Mr. Small then submitted forms adopted by the National Association of Steam and Hot Water Fitters, explaining the details of their purposes.

E. F. Butler, of Boston, representing the jobbers, touched upon the proposed organization of an association of the jobbers and masters as a step which would result in the meeting of the two branches frequently and the

Daniel E. Carroll, of Lowell, Mass., President of the Massachusetts Master Plumbers' Association.

foundation for a better business organization. He declared the jobbers today wanted to do their part in bringing business to the plumbers, because it means more business for the jobber.

Robert E. Sargent, representing the Standard Sanitary Manufacturing Co., was asked to speak upon the business situation. He said that the outlook for the manufacturer was becoming more serious every day, owing to government curtailment of certain ores. He touched upon the trade extension movement as one of the best things which had ever been started in the trade. First, there was the spirit of competition of a few years ago. Next came the spirit of monopoly. Neither of those were adapted to the American method of business, so today there is the spirit of co-operation, with all working for the benefit of the trade, and thereby bringing benefit to themselves.

President Carroll next brought up the principal business matter of the meeting, which was for the formation of a club to be composed of master plumbers and jobbers, and to be known as the Massachusetts Sanitary Club. Ex-President Perham made the report for the conference committee of plumbers and jobbers, which has had the matter under consideration for many months.

By the formation of this club, Massachusetts becomes the first state in the Union to organize an association of master plumbers and jobbers, thus following up its leadership in the recent trade extension campaign.

There was some opposition to forming the organization.

but when a final vote was taken, the vote was practically unanimous in favor of the club.

Mr. Perham said that it was proposed that any master plumber who is a member of the Massachusetts Association of Master Plumbers is eligible for membership, and only wholesale dealers in plumbing materials, whose principal place of business is in Massachusetts, are likewise eligible for membership.

The club proposes to develop the trade and improve the industry. Arrangements for a committee of six members, to be appointed by President Carroll, to act in conjunction with a committee of three members from the Jobbers' Association, were to compose the executive committee, and would meet and arrange for a general meeting of all master plumbers and jobbers for the fall of 1918, to complete final plans and inaugurate the new club.

President Carroll pointed out that the new Sanitary Club would have no membership fees, but would be a purely social organization, where plumbers and jobbers would meet, perhaps have dinner together, and then have some prominent representative of the manufacturers or the trade address them. These meetings could be held two or three times a year. The Sanitary Club would be wholly independent of the State Association, and would entail no expense, except for those who participated in the dinner.

President E. W. Cox, of the Boston Association, said that it was hard to get many to attend the state meetings now without adding more meetings and more clubs. He thought this club would be a fifth wheel to the coach, and did not see that it covered any more ground than the State Association covered. He said the jobbers were ready to meet the plumbers at any time now, and that if the state body invited them once or twice a year, they would surely attend.

Ex-president Perham said the conference board had held sessions for three years, and this club was the outgrowth of these meetings. The recent Trade Extension campaign was another outgrowth of the meetings. He believed that closer relationship between the jobbers and plumbers would bring about better business conditions and that it surely would do no harm to give the plan a trial.

Mr. Cox replied that he did not wish to oppose any measure for co-operation between the jobbers and the plumbers, but he thought the ground already covered by the state organization.

Ex-president William A. Bradford, of Quincy; Charles H. Hobson, of Lowell; Daniel Shannon, of Boston, and several other members participated in the debate, after which it was voted to adopt the recommendations for the formation of the club and the appointment of six members to its executive committee. These members will be appointed later by President Carroll.

All too soon the meeting was adjourned, and in the cool of the midsummer's evening the members returned to their homes.

The committee having charge of the outing consisted of Daniel F. Loan, of Worcester; J. Preston Perham, of Boston, and R. E. Dockham, of Salem, all of whom were early on the scene to look after the welfare of the members.

Other Cities in the State

The Smith Heating & Ventilating Co., of Worcester, was the lowest bidder for the heating and ventilating of the new building to be erected for St. Bernard's Church and secured the contract. The bidders were: Brosnan Heating Co., Worcester, $7,147; George R. Estabrook, Springfield, $6,700; J. W. Callahan & Son, Worcester, $6,684; F. T. Ash Co., Worcester, $6,450; Michael Taft, Holyoke, $6,446; Smith Heating & Ventilating Co., Worcester, $5,900.

The public property committee of the city of Taunton is receiving proposals for a new system of heating and new sanitary arrangements for the School Street school house in that city.

Charles L. Cribby, doing a heating and ventilating business at 89 Warren Street, Boston, under the firm name of the C. L. Cribby Co., has filed a petition in bankruptcy. His liabilities are scheduled at $12,001 and his assets at $6,253.

California

San Francisco and Vicinity.

War registration is not the only kind that took place in San Francisco last week. According to announcement made by state officials, approximately 3,500 plumbers of California registered with the State Board of Health, as provided by an act of the last legislature. The registration took place before examining boards in different localities throughout the state. The statute prescribes that it is unlawful hereafter for any journeyman or master plumber in any city or town, maintaining a public sewer system, to personally install any plumbing or drainage work, unless he shall first obtain a temporary permit or certificate issued by the examining boards.

The Women's Auxiliary of the San Francisco Master Plumbers' Association has organized a sewing circle which meets twice a week at the Master Plumbers' Building, for

Sewing Circle of the Women's Auxiliary of San Francisco Master Plumbers' Association. The Organization Has a Red Cross Charter.

the purpose of making garments for needy women and children of our allied countries. When a representative of "Domestic Engineering" recently visited the Master Plumbers' Building, he found some of the members of the Auxiliary busily engaged sewing for the Red Cross. Too busy to drop their work, they gathered it up and stepped out on the sidewalk to have their picture taken, with the result shown herewith. This circle has a charter from the Red Cross, and it has already sent several thousand garments to Belgium and France.

In conformity with the new state law, an examination for plumbers will be held next Saturday night in the Mission High School. Three hours will be allowed for the test, which will be open to journeymen and master plumbers. There will be but one examination this year.

Alex Coleman has been awarded the plumbing contract for alterations and additions to the John Bollman Co.'s tobacco factory on Fourth and Brannon Streets. The bid submitted by Mr. Coleman amounted to $4,235.

It looks as though some of the members of the trade on the east side of San Francisco Bay will have an immediate call for a very large quantity of water filters. The water supply for the East Bay communities has become so

(Continued on Page 338.)

GEO. D. HOFFMAN, Prest & Treas. EDWIN S. STORM, Vice-Prest P. F. CORCORAN, Secretary

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NEW YORK

August 31, 1918.

TO ALL PROGRESSIVE UP-TO-DATE STEAMFITTERS

GREETING

I have been 35 years (an average life time) in the heating game and during all these 35 years, I have never taken anything for granted. For 35 years I have worked persistently and insistently toward the betterment of heating apparatus. For 35 years I have proved by rigid test every method and every device I have produced.

My personal slogan has been "the best is none too good" and with that as my guide, I have held fast to that which has been proven by test to be "good".

"I have hitched my wagon to the star" which spells "service" and during all the 35 years I have been in the game, I am sure I never willfully marketed anything that did not give it's user better "service" than any similar device.

Hoffman Venting Valves are the culmination of 35 years of intensive work in this line and I know by test that each Hoffman Valve is the best in it's particular class.

If you are not already a user of Hoffman Valves won't you join our happy family. It has always been my great privilege and joy to serve you.

Yours for better heating,

Geo. D. Hoffman

A Venting Valve HSCo for Every Service

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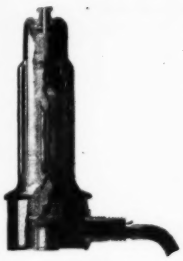
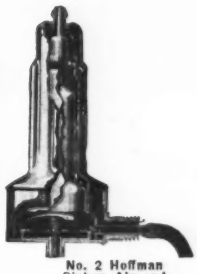
There is a Hoffman Val



No. 1 Hoffman Siphon Air Valve Use for Gravity Jobs

Hoffman Valves
Are Instruments of Precision



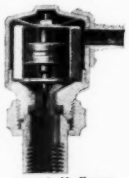
No. 2 Hoffman Siphon Air and Vacuum Valve Use for Gravity Vacuum Jobs

Because

Each and every Hoffman Valve is ***individually*** tested and proved to be operatively perfect before it leaves the factory. We don't test one Valve then pass a thousand, but each individual valve is separately tested.

Hoffman Valves cost more, but they are worth many times their cost in their service to the user and the reputation they build for the installing fitter.

Order from Your Jobber

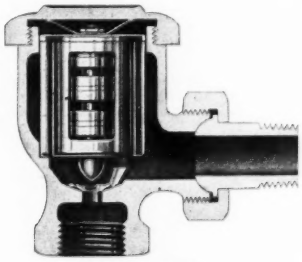


No. 3 Hoffman Air Line Valve Use for Air Line Drip or Vacuum Jobs

No. 4 Hoffman Junior Quick Vent Air Valve Use for Quick Vent Service on Mains or Blast Coils

No. 5 Hoffman Quick Vent Float Air Valve Use for Vapor or Quick Vent Service

No. 6 Hoffman Quick Vent Float, Air and Vacuum Valve for Vapor Vacuum Quick Vent Service



No. 8 Hoffman Return Line Valve Use for Vapor, Vapor-Vacuum, Modulating and Vacuum Heating Systems

The Hoffman Equalizing Loop

Without moving parts or mechanical devices of any kind it positively maintains a constant, unvarying boiler water line and a fixed differential of 10 oz. if boiler pressure should accidentally or purposely exceed 10 oz.—even should pressure go to 10 lbs. No burned boilers or cracked sections when HOFFMAN Equalizing Loop is used. Send for details of this marvelous invention. Works with equal success on new or old systems.

Exterior View of Hoffman Equalizing Loop

Phantom View of Hoffman Equalizing Loop

PA 130 N. Wells Street, Chicago

Valve For Every Service **Los Angeles 215 W. 7th Street**

(Continued from Page 335.)

low that its quality has been seriously questioned. The Commissioner of Public Health and Safety at Berkely has already advised residents of Berkeley that all water be filtered before used for drinking, and a similar move may be started at Oakland and the other suburban cities on that side of the bay. The tremendous expansion of war industries on the east side of the bay is largely responsible for that water shortage there, although two or three years of shortage in the rainfall have assisted in producing the crisis.

There are three stars in the service flag in the plumbing establishment of S. Petersen & Son, 2337 Fillmore Street, San Francisco, representing Mr. Petersen's three sons.

Mr. and Mrs. S. Peterson, of San Francisco, Cal.—From "Domestic Engineering" Photo Taken This Month in San Francisco.

Victor J. Petersen, a member of the firm, is now in France in the engineering department of the army. Edw. C. Petersen, formerly with the Spokane branch of the N. O. Nelson Mfg. Co., is in a training camp, while Sibbert, the youngest son, is in the navy. Mrs Petersen is doing her "bit" by assisting in her husband's plumbing office, while their three sons are serving their country.

Otto Kurtz, 445 Stevenson Street, has been awarded the contract for remodeling the plumbing, heating and electrical equipment on the third and eighth floors of the Wells Fargo and Nevada National Bank Building at Montgomery and Post Streets.

A. D. Collman has been awarded the contract for the plumbing, heating, electrical and sheet metal work on a two-story frame building to be erected on Illinois between Nineteenth and Twentieth Streets. The contract amounts to $9,945.

Other Cities in the State.

All bids received for the erection of a lavatory building at the Grammar School in Fullerton were ordered rejected by the school trustees as being too high. The plans will be revised and new bids taken.

E. E. Etherton, of Sacramento, was the low bidder for the construction of the State Tuberculosis Hospital building. The bid submitted by him amounted to $119,900. An administration building, service building, power house, nurses' home and several sleeping porches are to be built. Bids for heating and plumbing have not as yet been taken.

The bids have been opened for the plumbing, heating and sewering, by the State Engineer Department for work on the Trades Building, gymnasium, cottages and school at Sacramento, but up to date no awards have been made.

Edwards & Wildely Co., 515 Black Building, Los Angeles, has been awarded the contract for the construction of a one-story frame school building at Barstow. The contract price is $35,000.

W. S. Van Winkle and L. F. Hines, of Bay Point, are taking figures for the construction of a two-story frame hotel and store building to be erected on the corner of Main and Messenger Streets.

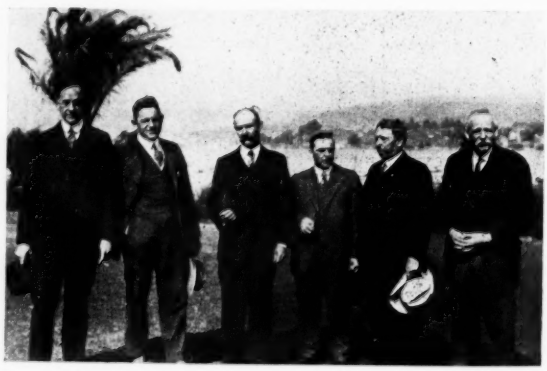
The effectiveness of the movement in Oakland for the furnishing of increased housing facilities, following the report on inadequate housing conditions in that city submitted by the State Commission, is shown by recent reports on building activities in Oakland. The greatest building progress of any of the larger cities of California is shown by Oakland, according to figures just compiled by the Oakland Chamber of Commerce. The comparative figures issued by the organization, based on returns from every large city in the state for the month of July are as follows: Oakland, July, 1918, $428,390 as compared with $345,085 for July, 1917; San Diego, $84,600 for July, 1918, as compared with $78,485 for July, 1917; San Francisco, $1,186,476 for July, 1918, as compared with $1,832,873 for July, 1917; Los Angeles, $820,480 for July, 1918, as compared with $1,063,808 for July, 1917. Plans for the employment of 25,000 men at the new "Liberty Shipbuilding Plant" when completed and the need of 8,000 men on other construction work will greatly increase the present demand for homes in Oakland and the other bay cities.

Carl T. Doell, of Oakland, has secured the contract for the installation of plumbing and heating systems in Pacific Telephone Co.'s new building in Oakland. This contract amounts to $47,000. Mr. Doell will also install plumbing in the New Liberty Plant, in More & Scott Ship Building Co.'s new plant and in 300 houses for ship builders at Bay Point.

The Miller Hays Co., of Stockton, has been awarded the contract for the installation of plumbing in the North East Primary school, which will be built in that city.

Hateley & Hateley, of Sacramento, have been awarded the contract for the installation of plumbing and heating in the new addition to the People's Bank Building in that city.

The Master Plumbers' Association of Oakland is one of the live-wire organizations in the State. Headed by Her-



The Officers of the Master Plumbers' Association of Oakland, Cal. From left to right they are: Past-President, H. G. Newman; Sergeant-at-Arms, W. H. Picard; Secretary, J. B. Morse; Vice-President, Charles Sperry; Assistant Secretary, Geo. C. Rodman, and Treasurer, A. H. McKowan.—From "Domestic Engineering" Photo, Taken This Month in Oakland.

bert W. Graham, who also is vice-president of the State Association, the members are doing business on strictly modern principles. Geo. E. Rodman, assistant secretary, is always to be found at the Association's headquarters during business hours, ready to be of service to members.

The work of enlarging the United States Hospital at Camp Fremont, has just been concluded, and there are now accommodations for one thousand patients. A new steam disinfector has been added to the hospital equipment, and a steam cooking plant is being installed.

Washington

Seattle and Vicinity.

Seattle's housing campaign, under the direction of A. S. Eldridge, has been undertaken on a large scale, and headquarters have been established in the Cobb Building. The Housing Committee of the Seattle Chamber of Commerce and Commercial Club is in general charge of the campaign, and the local builders, contractors, real estate men and bankers have been asked to co-operate in the work. It is hoped to construct houses at the rate of 1,000 each month. More than five thousand workmen will be required, and arrangements are being perfected to secure the necessary labor as well as the large quantities of materials that will be needed. That home-building is showing a rapid increase is indicated by the large number of permits issued daily for residences and apartment houses.

The Sanitary Plumbing & Heating Co.'s Establishment at Olympia, Wash.

A hospital, to cost about $40,000, will be constructed in Ellensburg by a syndicate headed by Dr. W. A. Taylor. Plans for the structure are now underway.

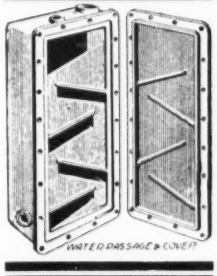
Other Cities in State.

A. Curto, of Cle Elum, has begun the rebuilding of his plumbing shop, destroyed in the recent fire which burned practically all of the business and a large part of the residence section of the city. Contractors are very busy rebuilding other structures, and more than twenty-five new homes are under way or planned, besides several large brick business blocks.

The following state buildings will be built during 1918: Cottage, power house, electric plant and steam heating plant at School for Girls, Grand Mound, Wash., $50,000. Two annexes to custodial building at the Feeble Minded Institute, Medical Lake, $80,000. Architect Julius Zitel, of Spokane, is making the plans.—School Building, School for Deaf, $40,000; kitchen building, $17,000; shops, School for Blind, Vancouver, $10,000. Architect, Dennis Nichols. Vancouver.—Hospital building, State Soldiers' Home, Orting, $37,500. Architect, Andrew Willatzen, Seattle.—Male ward building for Northern Hospital for Insane, Sedro-Woolley, $17,000; female ward building, $28,000; commissary and store building, $17,500. Architects, Heath & Cove, Tacoma.—Power house and equipment, Sedro-Woolley, $35,750; woman's building, Washington Veterans' Home, Port Orchard, $25,000. Architect, George W. Lawton, Seattle.

The School Board of Spokane recently awarded to F. E.

A New Kind of WATER HEATER—



Simple, Cleanable, Satisfactory—

Sharp's Cleanout Water Heater was designed to meet the worst enemy of water heaters—Hard Water. It has proven itself under conditions of lime deposit that render a coil heater useless in 6 months. It is thoroughly cleanable and requires no renewing of parts. With very little trouble and expense it will give years of satisfactory service.

Write for descriptive booklet and detailed information about Sharp's Heater. It is a very effective business builder.

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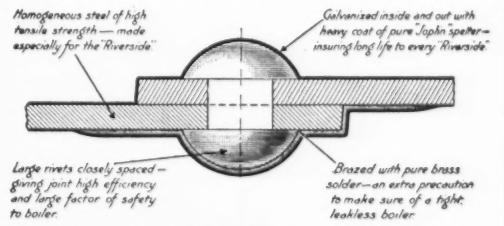
The "Riverside" Riveted and Brazed Seam


Homogeneous steel of high tensile strength — made especially for the "Riverside"
Galvanized inside and out with heavy coat of pure "John" spelter — insuring long life to every "Riverside"
Large rivets closely spaced — giving joint high efficiency and large factor of safety to boiler.
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The Strongest and Tightest Seam on any Range Boiler

Riverside Boiler Works, Inc.
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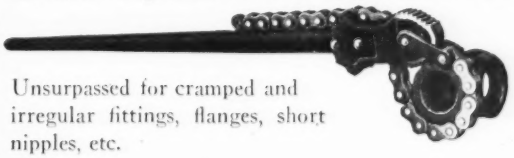
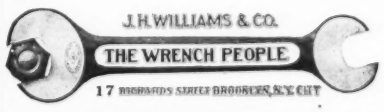
WILLIAMS' "AGRIPPA"
Chain Pipe and Fittings Wrench



Unsurpassed for cramped and irregular fittings, flanges, short nipples, etc.



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UNITED LEAD TIN BRASS **LINED PIPE**

Longest-lived, most economical pipe made. Also "United" acid-proof pipe and fittings.

UNITED LINED TUBE & VALVE CO.
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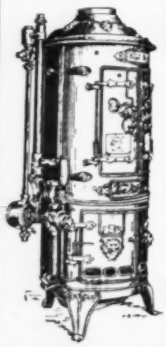

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Special sales helps for those who want to get ahead.

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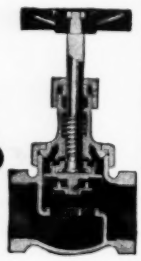

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ALL STYLES AND SIZES

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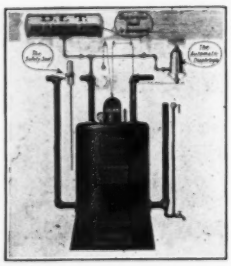
Saves 25% on Coal Bills



It is the most economical and efficient method of Hot Water Heating known. It will save your client money on the purchase of equipment, the installation and up-keep.

Over 35,000 D. & T. systems now in use.

Write for Booklet "Progress in Hot Water Heating."

D & T Manufacturing Co.
1907-09 Pine Street
St. Louis, Mo.

Peterson contract for construction of the proposed swimming pool at the Central High School, on his bid of $29,634. Bids opened for the plumbing and heating of the pool showed that $7,425 was the lowest submitted. The latter contract will be awarded later.

Resident building in Spokane is not so heavy this year as last year, due to the increased cost of building, but other lines of construction are holding up well. Plumbing and heating contractors report that the summer months have been fairly satisfactory, with good prices for their work.

Dr. J. B. McNerthney, of Tacoma, has purchased a site, 50x120 feet, on Broadway, on which he will erect a three-story apartment house in the near future.

Architects Sutton & Whitney, Tacoma, have been commissioned by the Heaton Realty Co. to prepare plans for the first block of about twenty houses to be built by the Realty company.

Members of the Allied Building Trades of Tacoma met recently in that city to discuss needed amendments to the present lien law. Plans were discussed to secure an amendment to the lien laws at the next session of legislature.

Oregon

Portland and Vicinity.

Private building operations in Portland during the past month have surpassed anything that city has experienced for years, and yet the demand for houses continues to exceed the supply, and it is expected that this shortage will be further felt when several contemplated expansions to shipbuilding industries are completed.

The Portland School Board recently awarded the contracts for the Open Air School, among them the heating and ventilating to Sturges & Sturges, and the plumbing to Eugene Ruedy.

J. A. Allen, of North Bend, plans the erection of two large apartment houses in that city.

Other Cities in the State.

The Oregon National Guard will build a large new armory at Marshfield to cost $40,000. An architect will be selected to prepare the plans in the near future.

G. C. Lorenz Plumbing Co., Klamath Falls, will construct a new two-story building on Sixth and Main Streets. The main floor will be used by the builder for his plumbing establishment, and the upper floor will be divided into three residence apartments. It is planned to complete the building in about two months.

Minnesota

St. Paul and Vicinity.

Recent plumbing permits include one to M. J. O'Neil for work on a three-story brick and concrete dairy building of the Sanitary Dairy Co., East Minnehaha and Mendota Streets; valuation $1,525. Mr. O'Neil also secured a permit for the plumbing work on the two-story building for Mrs. F. Schult, 1435 Grand Avenue; valuation, $1,475.

John McQuillen has been awarded the contract for plumbing in a two-story brick structure at Hamline Avenue and Lafond Street, a $1,250 job.

S. A. Hill will do the plumbing work on the two-story brick store of T. D. Humphrey, at West Seventh and Chestnut Streets.

Nels Olson will install plumbing in the two-story frame dwelling of A. O. Moersch, Hyacinth and Frank Streets.

T. J. Clark will install plumbing in the dwelling being

erected by the Peters Home Building Co., at 1757 Ames Avenue.

S. E. Smith has been awarded the contract for plumbing on the dwelling of B. Putnam, 283 St. Lawrence Street.

Dan Van Core is installing the plumbing in the residence of C. W. Coppee, 1392 Sargent Street.

Minneapolis and Vicinity.

Hineline & Co., of 625 Third Avenue, South, have been awarded the contract for the installation of a steam heating plant in the freight offices now being erected at Austin, Minn., for the Chicago, Milwaukee & St. Paul Railway.

Harry J. Valencour, of Minneapolis, will install the plumbing and heating equipment in the building formerly occupied by the Y. M. C. A. at Northfield, Minn., which is now being remodeled into a community house.

W. W. Hughes, of Minneapolis, enjoyed an outing last week with George E. Andrews in the good little ship "Little Bugger" on the Minnesota River, in the vicinity of Mr. Andrews' camp, just above Fort Snelling. The "Li.tl

W. W. Hughes and George E. Andrews in the "Little Bugger."

Bugger" is fitted with a propeller and motor of the type which it attached to the side of the bicycle. Mr. Hughes says it has the good old oars beat forty ways. Mr. Andrews was a plumber in the olden days, but he left the trade to go to the Klondike in search of gold, and upon his return he entered the fuel business. At the right end in the accompanying picture one end of "Bug 3," Mr. Andrews' thirty-foot speed boat, can be seen.

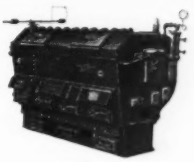
Avery Crounse, manager of the Sanitor Construction Co., the Minneapolis Master Plumbers' co-operative concern, which does all of the sewer and water construction work of its members, was taken to the hospital August 9th for an operation for appendicitis. The physicians report a successful operation and look for a speedy recovery. In his absence Benjamin N. Storey, formerly with the Western Supply Co., of St. Paul, and now superintendent for the Sanitor Construction Co., directs activities of the concern and will be assisted by Lawrence Norelius, a former Minneapolis master plumber.

The Belden-Porter-Gray Co. has the contracts for the plumbing in three residences, which are to be erected by the Walton Co.

L. O. Klopfer will install plumbing and heating systems in the Northern Pacific Railroad Co.'s lavatory building at Northtown Junction. The contract amounts to $1,500.

Hineline & Co., of 625 Third Avenue South, have the plumbing contract, and Ed Palmer, of 3220 Fifth Avenue South, the heating contract for the building now being remodeled at 707 Hennepin Avenue.

P. J. Gallagher, of Faribault, has the contracts for the installation of plumbing and heating systems in the new consolidated school now being erected at Rosemount, Minn.

ECONOMY  EFFICIENCY

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Pierce Down Draft, Magazine Feed, Smoke Consuming, Heating Boiler
Saves Fuel Labor
Manufactured only by
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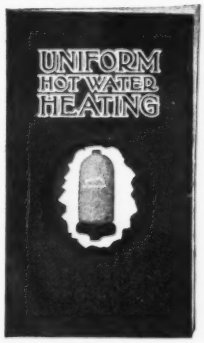

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It tells you all about the
Ball Seal Generator
for Hot Water Heating.
This generator increases circulation and radiation. Prevents sluggish, water-logged conditions. Reduces fuel cost. Operates without noise. No attention needed.
Just what you want for that next job.
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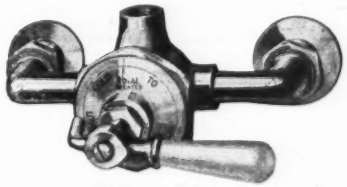
Mixing Valve for Showers
Simple in Operation—Few Working Parts.



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You Need "SANIDOME" Bibbs Basin and Bath Cocks
The Only Strictly Sanitary Line of Products
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Simple Sanitary Satisfactory
Designed for general use, and especially where hard usage is unavoidable. Lever or push button action.
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MFG. CO. ROBERTSHAW YOUNGWOOD, PA
The standard for 30-40 gal. boilers, and single coil heaters or equivalent. Has ¼-in. gas openings.
We Make All Sizes

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Save 15% on Fuel
It is your patriotic duty to install them. They are light, compact, quick-heating and save space. Can be hung on wall.
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We have solved all kinds of baffling soderin g problems for others—and can solve yours too Our 25 years' experience is at your command—without charge.
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UNCLE SAM has tested our
STANDARD PORTABLE VISE BENCH AND PIPE BENDER
and same has proved satisfactory. HE is now one of the THOUSANDS of satisfied users we have. Drop us a line and we will send you full particulars, or ask your jobber for same.
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"HAAS" WATER CLOSETS
are high grade, insuring maximum service and minimum expense
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Plumbers Specialties
Brass Goods for the Plumbing Trade
Closet Tank and Seat Trimmings, Connected Waste and Overflows, Traps, Supply Pipes, etc.
Any Reliable Jobber can furnish the "Femco" Line from stock
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K-K Cleans Closet Bowls
"The Sanitary Way"
Shake a little into bowl, let remain a few minutes, then flush. Leaves bowl and trap free from stains and odors. K-K is scientifically prepared for this purpose only—not a general cleaner.
Keep a supply on hand—your trade wants it.
The Chamberlain Company
Manufacturing Chemists - - - - - Pittsburgh,
Use "Desolvo" for Cleaning Clogged Pipes

Indiana

Indianapolis and Vicinity

Fort Benjamin Harrison, the large army post about ten miles northeast of Indianapolis, is to be converted into one of the large general hospitals for the treatment of wounded and disabled soldiers, who are brought back from overseas, according to an announcement made in Indianapolis a few days ago. Wounded soldiers from Indiana, Kentucky and about two-thirds of Illinois, embracing the southern part of the state, are to be sent there. The announcement is viewed with optimism by local plumbing and heating contractors, inasmuch as the transformation of the big army post into a hospital will mean a large expenditure for additional plumbing and heating facilities. It is understood that all the necessary apparatus and machinery used for the reconstruction of disabled men, as well as the necessary hospital equipment, which requires considerable plumbing and heating work, is to be installed. Local plumbing and heating contractors say the project will be a big financial asset to the city. The hospital will start with about 1,000 beds, and it is intended to expand it into about 3,000 or 4,000. Col. R. S. Thomas, commandant at the post, says the War Department recently asked him to report on the availability of using the permanent brick barracks as a base hospital, and his report, it is understood, carried the information that the post would be ideal for the proposed hospital.

On the other hand the engineer corps has been making strenuous efforts to retain the post as a permanent engineers' depot. For the past few months Fort Benjamin Harrison has been used exclusively as an engineers' depot, thousands of engineers, railroad operatives and railroad maintenance-of-way troops have been sent to the post from all parts of the United States.

It is said that the proposed base hospital will occupy the brick barracks, and the engineers will be housed in the cantonments.

Other Cities in the State.

Plans have just been completed by Harry B. Barker, one of Gary's leading real estate dealers, for the erection of twenty new bungalows, at an approximate cost of $70,000, and construction will be started as soon as the plans are approved by the state housing commission. The houses will be erected in the vicinity of Twenty-fifth Avenue and Madison Street. The plumbing and heating contracts on the dwellings have not yet been let.

Members of the South Bend Sanitary Club, composed of plumbers and their friends, held a picnic last Wednesday at Lake Chapin, near there. An athletic program held the attention of the picnickers during the afternoon, and a fried chicken dinner was served in the evening, followed by dancing. About two hundred were present at the outing.

The Lige Heating & Ventilating Co., of Auburn, has just received the contract to install the plumbing and heating systems in the new $25,000 public library that is being erected at Columbia City.

William Zimmerman, of 329 Olive Street, Whiting, has been awarded the contract to install the plumbing work in the new $125,000 high school building, which will soon be erected at East Chicago.

Tice & Brown, of Lebanon, have been awarded the contract for the installation of plumbing and heating systems in the new $18,000 flat building which is to be erected at Lebanon, for Joseph Cloverdale.

Seifert Bros., of 4713 Bearing Avenue, East Chicago, have the contract for the installation of a heating system in Julius Friedman's new $7,000 garage.

Michigan

Detroit and Vicinity.

The Donald Miller Co., of 280 Brush Street, has recently secured the following contracts: Plumbing in the Burroughs Adding Machine Co.'s new building, the Packard aviation plant, and the Ford ship building plant; also heating and plumbing in the Buhl Malleable plant, the Stroh Business Block, and two new churches. This company has a service flag with sixteen stars.

Otto A. Wurm & Co., of 33-35 Sproat Street, recently secured the contract for the installation of modern plumbing in the Cadillac Motor Co.'s new building, 180 by 320 feet in size. The contract called for a complete installation within seven days; the firm did the work in three days. The consideration was $3,000.

E. H. Hosbach, of 159 Greenwood Avenue, has secured the contract for the installation of plumbing and heating systems in the Kinsel Drug Store Building, a $10,000 job.

Edwin J. St. Aubin, of Detroit, has recently secured contracts for remodeling plumbing and heating systems in several residences in this city and vicinity. His service flag contains six stars.

Ohio

Cincinnati and Vicinity.

A number of additional contracts for work on the East Side High School of Cincinnati have been awarded by the board of education, looking toward the early completion of the group of buildings, the exterior work on which is already about finished. Among the contracts let was that for heating and ventilating work, which went to the Sodemann Heat & Power Co., of St. Louis, at $133,187.

One of the big jobs resulting from Government contracts is that of the Mosler Safe Co., Hamilton, which is building an addition to cost $150,000. Among the branches which have been let is the plumbing, which went to the Hillenbrand Co., of Cincinnati.

Cleveland Master Fitters' Annual Outing.

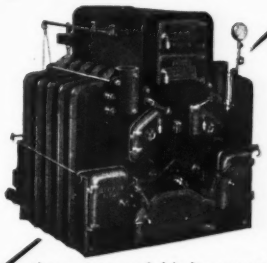
The Master Steam and Hot Water Fitters' Association of Cleveland held its annual outing at Bass Lake, Glauga county, 27 miles east of Cleveland, on Wednesday, August 14th, with a good attendance. The weather was perfect, and the affair was pronounced the most successful so far in the history of the association. The entertainment committee consisted of Messrs. Henricksen, Bohunek, Mallett, McCormick, Jones and Bohn.

Pennsylvania

Pittsburgh and Vicinity.

Four frame barracks are being erected on Neville Island, preliminary to the building of the giant ordnance plant. Each of the barracks will accommodate about 200 men. Hundreds of men are now at work digging pipe lines, while several large steam shovels are grading and excavating along the back channel of the Ohio river, where extensive water systems will be constructed.

As a result of unusual activity in the various trades, Clairton has adopted plans for the construction of a municipal sewerage system large enough to accommodate a town of 50,000 persons.



The Newport

The Magazine Feed Boiler with the Adjustable Throat

The Patriotic Boiler

This year home owners will be forced to take various sizes and kinds of fuel—pea and buckwheat along with chestnut, range and egg. Also non-caking nut soft coal. The Newport is the only boiler which burns efficiently all these sizes and kinds—separately or mixed. Thus your customers are safe, for unusual fuel conditions are overcome. Send for "Newport Heating" document.

Newport Boiler Company
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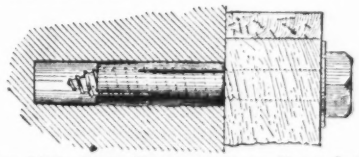

Showing Little Giant Expansion Screw Sleeve Installed.

The Little Giant Expansion Screw Sleeve does away with the ordinary wedge nut or pipe sleeve, and is more convenient to use. Try it.

Write for details and prices.

Stannard Mfg. Co., Springfield, Mass.

ELECTRIC HOUSE PUMPS · Dayton · WATER SUPPLY SYSTEMS

Suction Pumps *and* Complete Water Supply Systems

pumping capacities 1,200 to 1,600 gallons per hour. Efficient Deep Well Pumps with Hyatt Roller Bearings and silent chain drive, pumping capacities 150 to 2,000 gallons per hour. **Write for bulletins and price sheets.**

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PORTABLE SHOWERS

SPECIAL PRICES IN DOZEN LOTS

SHOWERS OF ALL DESCRIPTIONS

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630 N. FRANKLIN ST. · CHICAGO, ILLINOIS

A NAME AMONG NAMES

LOOK FOR NATIONAL THE NAME

¶ There is usually one familiar trade name which represents in its class "the highest development of the art". These trade names survive by virtue of public approval, based on past performance of the products represented. ¶ An announcement on this subject will appear next week, featuring the trade name "NATIONAL". Watch for it!—Title, "A NAME AMONG NAMES".

NATIONAL TUBE COMPANY Pittsburgh, Pa.

¶ If you want a salesman, foreman or workman, advertise in the Classified Department of "*Domestic Engineering.*" Used by the best houses in the trade.

An Air Valve With a Reputation

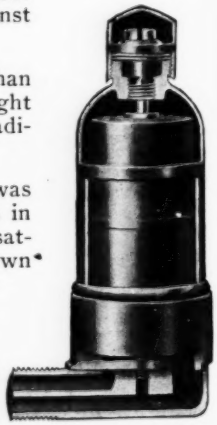
Russell's Perfect Automatic Air Valve

has a sealed metal float in the shell of the valve, which is flexible top and bottom and partially filled under vacuum with a sensitive fluid.

When cold the valve is open, freely venting the radiator of accumulated air. When steam reaches the valve, the vaporizing of the fluid expands the expansion float and closes the valve against loss of steam.

The float is lighter than water and will close tight should water enter the radiator.

Ever since this valve was put on the market by us in 1890, it has given entire satisfaction under every known heating condition.



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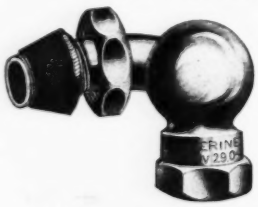
WOLVERINE FLEXIBLE
JOINT CONNECTIONS



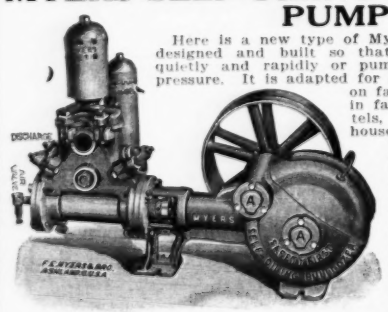
FOR OLD OR NEW WORK

BUILDING BIGGER BUSINESS

Plan a campaign on Wolverine fixtures.

WOLVERINE BRASS WORKS
GRAND RAPIDS, MICH. SAN FRANCISCO, CAL.

MYERS SELF-OILING POWER PUMP



Here is a new type of Myers Power Pump designed and built so that it will operate quietly and rapidly or pump against heavy pressure. It is adapted for service in homes, on farms and ranches, in factories, mills, hotels, apartment houses, laundries, or wherever an efficient, durable pump of modern construction at a moderate cost is desired.

Self - Oiling. Working parts enclosed. Several sizes. Gasoline engine, motor or other power. Catalog on request.

F. E. MYERS & BRO. **ASHLAND, OHIO**

The McGinness-Smith Co. has the contract for the heating and ventilating in the new school auditorium at Dormont.

Bids are being received for the delivery and installation in the Lorimer school building of a mechanical automatically regulated ventilating and heating system that will in all respects conform to the state of Pennsylvania school code; owner school board of North Huntingdon township. The bids will be opened September 7th at the office of A. M. Peters, R. F. D. No. 1, Irwin, Pa.

Philadelphia and Vicinity.

Bulman Bros., of Fifth and Cumberland Streets, have been awarded the contract to install plumbing in a garage for W. H. Brehm, at Twenty-first and Cayuga Streets.

J. F. Boyer Plumbing & Heating Co., of Norristown, has been awarded the contract to install heating and plumbing in a new department store that is being erected in that city.

Hirst Bros., of Tacony, are doing considerable new work in Tacony and are installing plumbing in a row of houses on Disston Street.

John Hirst, of Phillipsburg, has been awarded the contract to install plumbing in a residence that is being erected for H. B. Scott, in that town. Consideration, $2,500. E. Keeler Co., of Williamsport, has the heating contract on this building.

William Newell & Son, of Sansom Street, have been awarded the contract to install plumbing in the new plant that is to be erected in Nicetown for the Midvale Steel & Iron Co.

D. F. Durkin, Jr., of 613 Pine Street, has been awarded the contract for extra plumbing in a new hospital that is being erected at Fifty-sixth Street and Cedar Avenue.

THE WHY AND WHEREFORE OF SANITARY ENGINEERING.

(Continued from Page 317.)

until the water comes to the boil, the pressure of the mixture being all the time equal to or slightly greater than that of the external air. When the boiling point is reached, the pressure of the vapor alone is equal to that of the external air. As the boiling proceeds, the boiling point is slightly exceeded, and the steam, having a slightly greater pressure than the external air, is able to expel it and take exclusive possession.

If you will boil a small quantity of water in a glass flask and while it is boiling insert an air-tight cork, at the same time removing the source of heat, the flask will contain only water and vapor of water. Ebullition will immediately cease, but if the flask is inverted and a wet sponge squeezed over it, ebullition will recommence and will continue for some time. The cold water reduces the temperature and the pressure, and the reduction of the latter causes the water to boil at a lower temperature than 212 degrees Fahr. Thus it will be seen that water will boil more readily and with less heat in Denver, Colo., than in Chicago, Ill. At lower altitudes the boiling point is increased with an increase in pressure, and this knowledge is put to practical use in producing superheated steam used in disinfectors, etc. It will also be observed that water is not so readily heated in a heater under the pressure as in an open vessel, and, further, the greater the water pressure, the greater number of heat units must be applied to raise the water to a satisfactory temperature.

(To be Continued.)

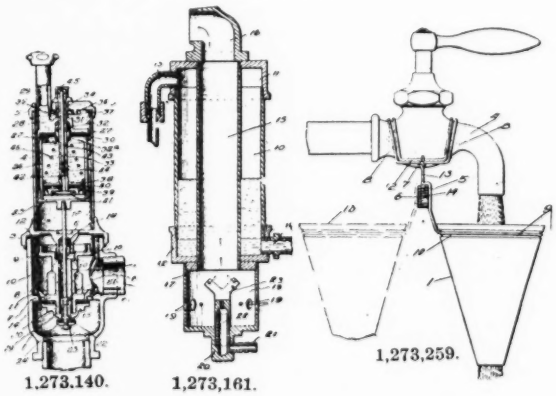
Nashville, Tenn.—Coleman Mogan & Son have succeeded to the plumbing business of Schmidt & Mogan, at 331 Third Avenue, South.

Patents

Plumbing Department.

1,273,140. Flushing Valve. Robert A. Brooks, Chicago, Ill., assignor to the Brooks Manufacturing Co., Chicago, Ill., a corporation of Arizona. In a device of the character described and in combination with means for operating the hereinafter recited relief valve and automatic retarding means for closing such valves slowly, a main valve having a passage through its body and formed with a valve seat at the lower end of such passage and also having a block portion arranged to close the main valve opening in advance of the seating of the valve, a relief valve co-operating with said valve seat at the bottom of the passage through the main valve and arranged to carry said main valve toward its seat as said relief valve closes, said main valve having a relatively unretarded closing movement with respect to said relief valve, whereby said main valve will seat quickly in advance of the relief valve when the block portion of the main valve closes the main valve opening and a limited closing flow of water will occur through the relief valve.

1,273,161. Water Heater. William H. Edwards, Des Moines, Ia., assignor of one-half to George H. Neiswanger, Lorimor, Ia. A water heater comprising a tubular body, upper and lower caps for the body, the lower cap being provided with a water inlet and the upper cap with a water outlet, a heater tube passing through the body with its upper and lower end portions threaded into openings in the caps and extending beneath the lower cap, a collar threaded upon the lower end of the heater tube beneath the lower cap, a burner housing threaded upon the collar and provided with a fuel inlet, and a burner in the burner housing communicating with the fuel inlet.



1,273,140. 1,273,161. 1,273,259.

1,273,259. Soapsuds Apparatus. Arthur F. Merrill, Portland, Ore. A soap suds dispenser comprising a conic-frustum shaped soap holder, and having an annular outer groove near its largest end and an annular inner flange near its largest end, a cone shaped strainer, carried within said holder and adapted to have its edge pressed beneath the flange of the holder so as to be retained thereby, a wire ring adapted to engage the aforesaid groove so as to carry the holder, and provided with an upwardly extending end having a bent over hook, a wire fastener adapted to be attached to a faucet and carrying a depending coil of wire arranged to pivotally hold the hook end of the wire ring.

Value Received

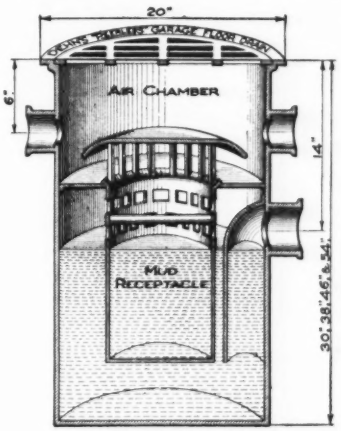


Fig. 62 Patented

When you install Dehn's "Peerless" Garage Drains your clients never stop talking about it. A wonderful installation. Value received.

1897 — 1918

COMPOUND INJECTOR & SPECIALTY CO.

Originators, Designers and Sole Manufacturers of Dehn's Sanitary Safeguards

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Milwaukee

Cast Brass

Shower Heads

With Removable Face

Made with or without Ball Joint in the following sizes:

3 in., 4 in., 4½ in., 5 in., 6 in., 6½ in. and 8 in.

As good as it is possible to make a shower head.

D200

Order From Your Jobber. Specify the Milwaukee. Made by

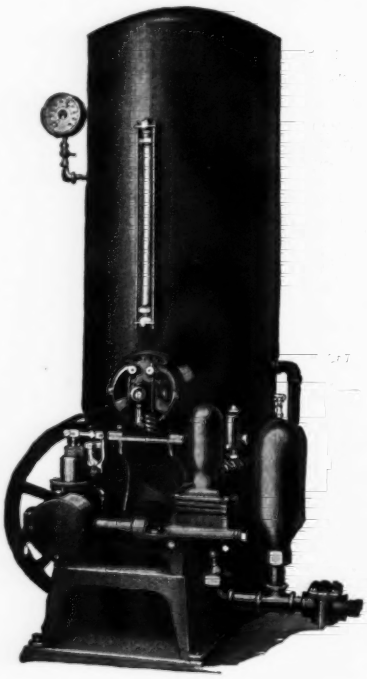
Milwaukee Flush Valve Co., Milwaukee, Wis.

PATENTS

Over twenty years' experience in handling patent litigation, rendering opinions as to infringement and validity, and the preparation and prosecution of application for patents. References: Joseph A. Vogel Co., Wilmington, Del.; District National Bank, Washington, D. C.; Martindale's American Law Directory; Dun or Bradstreet. Correspondence invited.

TALBERT & TALBERT, Patent Lawyers

5708 TALBERT BLDG. - WASHINGTON, D. C.



Mr. Plumber:

In making your estimates on installations, you figure your overhead. This is profit, **providing you do not have to return to the job.**

We can guarantee you this profit if you install **Roberts Water or Electric Driven House Pumps.**

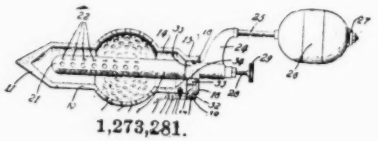
If desiring to be convinced, try us; but first ask about our prices and bulletins. This alone will surprise you.

The Geo. J. Roberts Co.

DAYTON, OHIO

1,273,146. Aluminum Solder. David M. Campbell, Brooklyn, N. Y. An aluminum solder comprising copper, from six to eight per cent; aluminum, from seven to eleven per cent; lead, from twelve to fifteen per cent; tin, from twenty to thirty per cent; zinc, from forty to fifty per cent; and characterized by a melting point substantially that of solder, so that the same can be worked with a soldering iron.

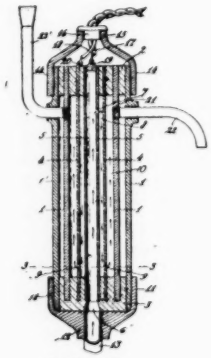
1,273,281. Soldering Tool. Julian Smigiel, Hartford, Conn. In a soldering tool, the combination with a hollow head having an applicator point and a globular element formed therewith, said globular element being perforated, of a burner enterable opposite to said applicator point,



1,273,281.

said burner having screw-threads formed upon the outer surface, a block slidably engaged in said head adjacent to the opening through which said burner enters, a lever for operating said block, means for normally keeping said block in engagement with said thread, and means of supplying a liquid fuel to said burner.

1,273,451. Electric Heating Apparatus. Manuel Bouzo, Habana, Cuba. An electric liquid heater comprising an outer casing, an inner casing insulated from the outer casing, a cylindrical electrode within said inner casing and spaced and insulated therefrom, a second cylindrical electrode within the first electrode and spaced and insulated therefrom, an inlet pipe communicating directly with the inner electrode, an outlet pipe extending through said outer casing and communicating with the inner casing, the first electrode being formed with opposed openings adjacent its lower end and the second electrode being formed with an opening adjacent its upper end, to permit longitudinal circulation of a liquid from said inlet pipe to and through said electrode and into said outlet pipe.



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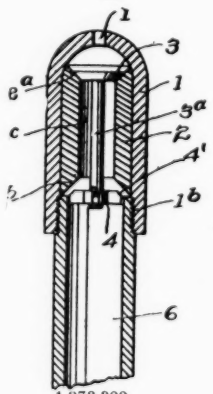
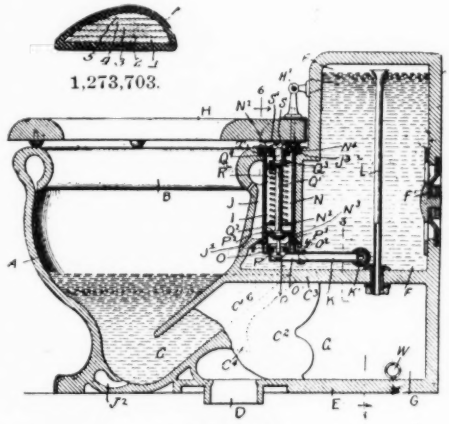


1,273,322.

1,273,322. Drinking Fountain. Joseph W. Brenkert, San Diego, Cal. In a drinking fountain, the combination of a cylindrical member provided with a semi-spherical end integral therewith and with a hole centrally therein, a water supply pipe upon which the open end of said member is screwed, a sleeve fitted snugly in said cylindrical member provided with tapering ends, a valve adapted to seat on one of said tapering ends, a spider adjustably mounted on the stem of said valve adapted to rest against the other tapering end of said sleeve when said valve is in certain

position, and a control valve in said supply pipe whereby said valve will reciprocate in said sleeve with the opening and closing of said control valve.

1,273,703. Closet Seat. Michael J. Whelan, Muskegon, Mich., assignor to Brunswick-Balke-Collender Co., a corporation of Delaware. A closet seat comprising a wood core consisting of a plurality of thoroughly dried layers of wood veneer arranged one upon the other with the grain of each layer disposed angularly with respect to the grain of the adjacent layer or layers, said layers being cemented together and said core having a rough pubescent surface, and a covering of hard rubber vulcanized on said core and united therewith throughout the entire surface of the core.



1,273,703.

1,273,415.

1,273,415. Water Closet. Frank Schuh, Trenton, N. J. A water closet, comprising a bowl having a flushing rim, a water tank, an inlet chamber intermediate the said bowl and the said water tank, the said bowl, water tank and inlet chamber being integral and the said inlet chamber having an aperture top and an annular rabbet, and the said inlet chamber having an apertured bottom, and a valve mechanism having a casing within the said inlet chamber and extending through the said apertured top and bottom of the inlet chamber, the upper end of the said casing having a flange seated on the said rabbet, and the said casing having an inlet and an outlet port connecting with the said water tank, and having an outlet port opening into the said inlet chamber, the bottom of the casing having an inlet port, a cap screwing on the lower end of the said casing and against the under side of the said casing bottom, the cap being connected with a source of water supply and two valves having a common spring-pressed valve stem, one of the valves extending into the said cap and controlling the said inlet port and the other valve being within the said casing and controlling the said outlet port.

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The voyage was a bit rough, and going across on the transport Sam got about all he wanted of life on the ocean wave. On arriving he was heard to remark: "It sho' takes some nerve to cross dat Atlantic Ocean. If it don't freeze all over and a railroad ain't built across to mah home in Georgia. I's a European fo' de rest of mah life." —"Boston Transcript."

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7. Eliminates water hammer in radiators.
8. Has all the virtues and none of the objections that you find in the more elaborate and expensive devices now on the market.
9. Can be operated wherever city pressure water is available.
10. Heat as you want it, when you want it.
11. No motors or complicated mechanism to require constant attention.
12. Made by the Penberthy Injector Co., of Detroit, Mich. (which is sufficient guarantee that it is all it is represented to be.) Established in 1886.

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The charge for advertisements under this heading is $1.00 for 25 words or less, including heading and address; 4 cents each for additional words. To insure insertion, copy and remittance should reach us by Wednesday morning.

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WANTED—PLUMBERS AND STEAMfitters. Steady work, eight hours, seventy cents per hour. Box 304, Lorain, O. 8-31

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Situations Wanted.

POSITION WANTED—AS ESTIMATOR or superintendent of plumbing and heating. Absolutely know the business. Twenty years' experience. Sober, reliable. Address 2551, care "Domestic Engineering," Chicago. 8-24; 31

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FOR SALE—PLUMBING, HEATING, sheet metal and store business in second class city. Located about fifty miles out of Pittsburgh. Established eleven years. Doing fine prosperous business. Good reasons for selling. Address 2553, care "Domestic Engineering," Chicago. 8-31-5

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FOR SALE—1 AMERICAN RADIATOR Company's No. 4118 down draft steam boiler. This boiler has been used only a short period last winter and is in splendid condition; also 1 23x56 ft. long Armco Iron smoke stack used only 90 days. Write A. J. Yarber, Jr., Sydney, O. 8-31

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WE BUY IRON PIPE COUPLINGS—spot cash. How many, either pounds or pieces have you of various sizes? Gwilliam Supply Co., 615 Christian Street, Philadelphia, Pa. 10-6,tf

SELL YOUR SURPLUS COUPLINGS and fittings. Write us. The A. & J. Mfg. Co., 557 W. Lake St., Chicago. tf

Government Proposals

TREASURY DEPARTMENT, SUPERvising Architects Office, Washington, D. C., August 22, 1918. Sealed proposals will be opened in this office at 3 p. m. September 16, 1918, for the mechanical equipment of the United States Marine Hospital, New York, N. Y. (Stapleton), in accordance with drawings and specification, copies of which may be obtained from the Supervising Chief Engineer, Room 731, United States Custom House, New York City, or at this office, in the discretion of the Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect. 8-31

TREASURY DEPARTMENT, SUPERVISing Architect's Office, Washington, D. C., August 14, 1918.—Sealed proposals will be opened in this office at 3 p. m., September 12, 1918, for remodeling toilet room, etc., in the United States post office and courthouse, Detroit, Mich., in accordance with drawing and specifications, copies of which may be had at this office or at the office of the custodian, Detroit, Mich., in the discretion of the Supervising Architect. James A. Wetmore, Acting Supervising Architect. 8-24; 31

TREASURY DEPARTMENT, SUPERVISing Architect's Office, Washington, D. C., August 14, 1918.—Sealed proposals will be opened in this office at 3 p. m., September 9, 1918, for Mechanical Stokers, etc., in the U. S. Post Office and Court House at Pittsburgh, Pa., in accordance with the drawing and specification, copies of which may be had at this office or at the office of the Custodian at Pittsburgh, Pa., in the discretion of the Supervising Architect, Jas. A. Wetmore, Acting Supervising Architect. 8-24; 31

Books for Your Trade Library.

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